

SUMMER 2012

FIRE
CCTV
SECURITY
COMMUNICATION



Catch the Technology Wave This Summer



Advantage Line

QUICK GUIDES

REVISED 7-10-12



Page 1



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Table of Contents

Advantage Line Economical CCTV Solutions.....5
Cameras.....7
Infrared Illuminators.....13
Cameras for Challenging/Hazardous Environments.15
Cameras to Capture License Plates.....19
IP Cameras.....21
ComNet Network Switches.....25
Pan/Tilt/Zoom Cameras.....31
Recording for Analog and IP Cameras.....33
Monitors.....35
IP Encoders.....36
Access Control (AEC).....38
Intrusion Detection.....39
Fire Protection.....45

Points of Contact

Maryland, Virginia, Washington DC
Chesapeake Marketing
410-612-9640
www.chesapeakemarketing.com

Pennsylvania, Delaware, Southern NJ
Midlantic Marketing
610-361-0500
www.midlantic.net

The Importance of Camera/Lens Selection

Detection

DETECTION-LEVEL SURVEILLANCE: A human-sized object is simply determined to be present. At this surveillance level, movement typically attracts attention to the object and it is uncertain whether the object is a swaying tree, an animal, a human, or some other object. The object is clearly discernable from its surroundings and easily distinguished from the background when in motion.



Classification

CLASSIFICATION-LEVEL SURVEILLANCE: The object is determined to be a human as opposed to an animal or other object. All properties of the Detection-level image still apply. Additionally, the object can be determined to be roughly symmetric or asymmetric, its approximate physical orientation and direction of motion may be determined.



Recognition

RECOGNITION-LEVEL SURVEILLANCE: A human sized object is determined to be a threat or a non-threat based on the type of clothing worn, equipment carried and and/or other contextual clues. All properties of Detection- and Classification-level images still apply. Additionally, physical stance and body movements can be discerned (e.g. arms crossed, person in a firing position, two people fighting), uniforms of different types may be distinguished and the presence of headgear, backpacks or other objects carried can be determined.



Identification

IDENTIFICATION-LEVEL SURVEILLANCE
A human sized object can be positively determined to be a specific individual. All properties of Detection- and Classification and Recognition-level images still apply. Additionally, the object's facial features of a person can be seen, the type of headgear can be distinguished (e.g. bicycle helmet or soldier's helmet), specific objects can be in the hands (weapons, phones, etc.)



It is important to note that factors which affect imaging include the type of camera, the type of lens, the type and amount of illumination on scene and the type of clothing worn by surveillance targets. Weather and airborne obscurities may also affect the imaging results. DCRI surveillance levels are a standard developed originally by John Johnson in his foundational work for the United States Army.

Camera Type	► Megapixel		► HD		► HD Infrared		► IP		► IP Infrared					
	COMING SOON		COMING SOON		COMING SOON		COMING SOON		COMING SOON					
Imaging	Image Sensor Type Day/Night WDR IR Sensitive Motion Detection Privacy Zones LEDs	NDC-284-P 5 Megapixel IP Dome		NDC-265-P		NDC-265-PI		NDC-225-P (1) NDC-255-P (2)		NDC-225-PI		NDC-225-PI		
		● 5MP		1/4" CMOS		1/4" CMOS		1/4" CMOS		1/4" CMOS		1/4" CMOS		
		● 1/3" CMOS		—		—		—		—		—		
		● IR Sensitive		—		—		—		—		—		
		● Motion Detection		—		—		—		—		—		
Max. Resolution	● SDXC card slot		—		—		—		—		—		—	
	● -4" to 131° F		—		—		—		—		—		—	
Min. Illumination	Color		HD 720p (1280 x 720)		HD 720p (1280 x 720)		HD 720p (1280 x 720)		VGA (640 x 480)		VGA (640 x 480)		32 @ 940 nm VGA (640x480)	
	B/W		1.0 lux		1.0 lux		1 lux (IR off) 0 lux (IR on)		1.0 lux		1.0 lux		1 lux (IR off) 0 lux (IR on)	
Lens	Color		2.8 - 8 mm		2.7 - 9 mm		2.7 - 9 mm		4 mm Fixed (1) 2.8 - 10 mm Auto-iris (2)		4 mm Fixed (1) 2.8 - 10 mm Auto-iris (2)		3.7 - 10 mm Fixed	
	B/W		DC Auto-iris		DC Auto-iris		DC Auto-iris		DC Auto-iris		DC Auto-iris		DC Auto-iris	
Night Vision / Infrared Range	—		—		—		82 ft		—		—		82 ft	
	Ethernet, RJ45		Ethernet, RJ45		Ethernet, RJ45		Ethernet, RJ45		Ethernet, RJ45		Ethernet, RJ45		Ethernet, RJ45	
Output Connection	IEEE 802.11b/g		IEEE 802.11b/g		IEEE 802.11b/g		—		—		—		—	
	SD Card		SD Card		SD Card		—		—		—		—	
Storage	32" to 122" F		32" to 122" F		32" to 122" F		—4" to 131° F		32" to 122° F		32" to 122° F		—4" to 131° F	
	—		—		—		IP66		—		—		IP66	
Environment	Operating Temp.		3.36 W		3.36 W		—		3.36 W		3.36 W		—	
	All-weather Rating		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE	
Power	Max. Consumption		4.1 W		4.1 W		6.6 W		4.1 W		4.1 W		6 W	
	Supply		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE		+12 VDC or PoE	

	► PTZ	► Mini Bullet	► MiniDome	COMING SOON		► IR Dome	► IR Bullet				
Camera Type	VEZ-400	VTC-206F03-4 (1) VTC-206F03-4 (2)	VDC-240V03-2	VDC-250F04-20 (1) VDC-260V04-20 (2)	VDC-275-20 Color Dome ● 650 TVL ● 2.8 - 10.5 mm ● 1.4" to 122" F	VDI-240V03-2	VDI-245V03-2 (1) VDI-245- V03-2U (2)	V7I-214F04-4	V7I-216V04-2	V7I-218V03-2	V7I-220V05-2
Imaging	Image Sensor Type	1/4" CCD Yes	1/3" CCD	1/3" CCD	Day/Night Dome	1/3" CCD	1/3" CCD	1/3" CCD	1/3" CCD	1/3" CCD	1/3" CCD
	WDR	Yes	—	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	IR Sensitive Motion Detection Privacy Zones LEDs	—	—	4 Zones 4 Zones	4 Zones 4 Zones	4 Zones 4 Zones	4 Zones 4 Zones	64 Zones 4 Zones 18 @ 850 nm	—	64 Zones 4 Zones 18 @ 850 nm	64 Zones 4 Zones 30 @ 850 nm
Max. Resolution	600 TVL	380 TVL (1) 600 TVL (2)	540 TVL	540 TVL	VND-276-20 Day/Night Dome ● 650 TVL ● Day/Night ● 2.8 - 10.5 mm ● 1.4" to 122" F	540 TVL	540 TVL	380 TVL	520 TVL	540 TVL	540 TVL
Min. Illumination	0.2 lux 0.001 lux 3.5 - 104 mm 26x optical zoom	0.5 lux 0.1 lux	n/a	0.05 lux 0.005 lux	580 TVL 0.15 lux	580 TVL	0.05 lux	—	—	—	—
Lens	3.6 mm Fixed	3.6 mm	2.8 - 10.5 mm Auto-Iris	2.8 - 10.5 mm Auto-Iris	3.8 mm Fixed (1) 3.8 - 9.5 mm DC/Iris (2)	3.8 - 9.5 mm Auto-Iris	0 lux (IR on) 2.8 - 12 mm Auto-Iris	0 lux (IR on) 4 mm Fixed	0 lux (IR on) 3.8 - 9.5 mm DC Auto-Iris	0 lux (IR on) 2.8 - 12 mm DC Auto-Iris	0 lux (IR on) 5 - 50 mm DC Auto-Iris
Night Vision / Infrared Range	—	—	—	—	—	—	60 ft	49 ft	66 ft	66 ft	150 ft
Output Connection	BNC Connector	BNC Connector	BNC Connector	BNC Connector	BNC Connector	BNC Connector	BNC Connector (1) UTP (2)	BNC Connector	BNC Connector	BNC Connector	BNC Connector
Storage	—	14" to 122" F IP67	14" to 122" F IP66	14" to 122" F IP66	14" to 122" F IP66	14" to 122" F IP66	14" to 122" F IP66	—	—	—	—
Environment	Operating Temp. All-weather Rating Vandal Resistant Max. Consumption Supply	-40" to 122" F * IP66 IK10 20 W, 43 W** 24 VAC	14" to 122" F IP66 Yes 3.6 W 12 VDC	14" to 122" F IP66 Yes 3.6 W 24 VAC, 12 VDC	14" to 122" F IP66 Yes 3.6 W 24 VAC, 12 VDC	14" to 122" F IP66 Yes 3.6 W 24 VAC, 12 VDC	14" to 122" F IP66 Yes 4.5 W 24 VAC, 12 VDC	-22" to 122" F IP67	-22" to 122" F IP67	-22" to 122" F IP66	-22" to 131" F IP66
Power	—	3.6 W 12 VDC	3.6 W 12 VDC	3.6 W 24 VAC, 12 VDC	3.6 W 24 VAC, 12 VDC	3.6 W 24 VAC, 12 VDC	4.5 W 24 VAC, 12 VDC	4.2 W 12 VDC	4.2 W 12 VDC	6.7 W 24 VAC, 12 VDC	8 W 24 VAC, 12 VDC

* Heater works automatically from -40° to 50° F
** Heater on

Advantage Line Quick Selection Guide

Digital Storage and Accessories

System		DVR 400 Series		DVR 600 Series	
Video	Target System Size	1 - 8 cameras		16 - 64 cameras	
	Operating System	Embedded		Embedded	
	Rack Mountable	No		Yes	
Audio	SDK Available	Yes		Yes	
	Input Channels	4, 8		8, 16	
	Output	No		Yes	
Alarms	Looping Video	Yes		0	
	Composite Outs	1		2	
	VGA	Yes		1	
Alarms	Spot Monitor	1		1	
	Input Channels	1		1	
	Output Channels	1		2	
Alarms	Synchronous Audio	Yes		Yes	
	Associate Multiple Cameras to 1 Audio	Yes		Yes	
	Inputs	4, 8		8, 16	
Alarms	Relay Outputs	1		4	
	Call up Pre-position on Dome Cameras	Yes		Yes	
	Increase Frame Rate on Alarm	Yes		Yes	
Alarms	Simultaneous Normal and Event Recording	Yes		Yes	
	Multiple Camera Linking on Alarm Event	Yes		Yes	
	Notification Via Email	Yes		Yes	
Alarms	Pre-alarm	Yes		Up to 30 seconds	
	Motion Detection	Yes		Yes	
	Video Compression	H.264		H.264	
Recording	Frame Rate (FPS); IPS per Camera	120 or 240 FPS @ CIF		480 FPS @ CIF	
	IPS per Camera	25/30 FPS @ CIF		25/30 FPS @ CIF	
	Recording Resolution	352x240 / 704x240 / 704x480		352x240 / 704x240 / 704x480	
Recording	Individual Cameras Adjustment (IPS & Quality)	Yes		Yes	
	Schedule Recording Modes	Day / Week / Specific Day / 32 Exception Days		Day / Week / Specific Day / 32 Exception Days	
	Internal HDD/Expandable	500 GB / No		500, 1000, 2000 GB / Yes	
Storage	Export	USB 1.1 and USB 2.0		Internal CD/DVD Writer, USB 2.0	
	Supported Devices	Native File Format		Native File Format	
	Data Format	Yes		Yes	
Search	Timeline Search Bar (Color-coded)	Date/time, Events, Motion		Date/time, Events, Motion	
	Search Mode	Yes		Yes	
	Smart Motion Search	720x484		720x484	
Disp.	Live Resolution	Full, 2x2, Sequence		Full, Sequence, 2x2, 3x2, 3x3, 4x4, 5+1, 7+1, 12+1	
	Screen Division	3		3	
Security	User Control	Yes		Yes	
	Data Integrity Check (Watermarking, etc.)	User Levels		Yes	
Access	Mobile Client Access	Camera Lockouts by User		Yes	
	Web Browser Access	Set Viewing Permissions		Yes	
	Simultaneous Accessible Users	Yes		Yes	
Remote Access	Admin control	4		4	
	PTZ Control	Yes		Yes	
	Export Options	Yes		Yes	
Other	Instant Playback	Native File Format		Native File Format and AVI	
	Digital Zoom (Live / Playback)	Yes		Yes	
	PTZ-Joystick Control	Yes / Yes		Yes / No	
Other		No		Yes	



Bosch Video Client

- BVC-ESI160A 8 CHANNEL BVC EXPANSION LICENSE
- BVC-ESI161A 16 CHANNEL BVC EXPANSION LICENSE

Easy to use graphical user interface. Display up to 20 HD (1080p and 720P) or SD cameras at the same time.

- Dynamic 16:9 camera resizing
- Simultaneous viewing of live and playback streams (20 max.)
- Local recording and snapshots
- PTZ control
- Lens control and digital zoom
- Playback and export from on-camera storage and VRM
- Motion and IVA Forensic Search
- Instant replay and trick mode playback

BVC is packaged free of charge with all Bosch IP cameras, and can be downloaded from the web. Licensing is free for up to 16 cameras. For larger systems, 8-camera and 16-camera expansion license bundles are available for purchase

Power Supplies		Mounts	
	UPA-2430-60		WZMB.001
	UPA-1220-60		VEZ-A4-IC
	UPA-2450-60		VEZ-A4-PW / PC
Other Hardware			VEZ-A4-WW / WC
MIC-BP3		Bi-Phase to RS-485 converter device for VEZ-400	
		Adapter Plate enables mounting of the VTI-220 camera onto a circular gang box	
		In-ceiling Mount for VEZ-400	
		Pipe Mount for VEZ-400. Available in white or charcoal	
		Wall Mount for VEZ-400. Available in white or charcoal	

Dinion Cameras Quick Guide



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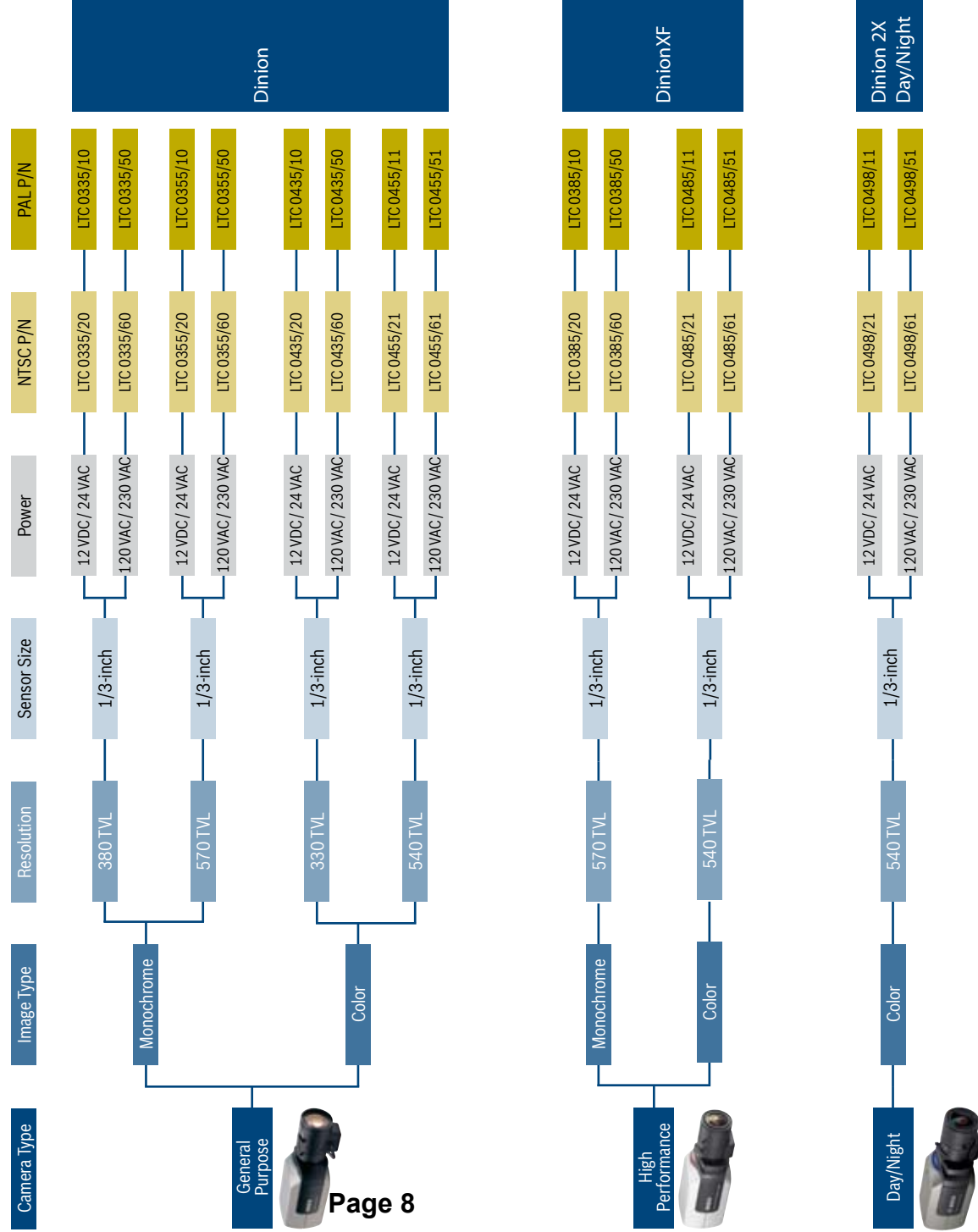
Imaging Features									
Page 7	Image sensor type	1/3" Interlaced CCD		1/3" Interlaced CCD		1/3" Interlaced CCD		1/3" Interlaced CCD	
	Monochrome model	LTC 0335		LTC 0355		LTC 0385		n/a	
	Color model	LTC 0435		LTC 0455		LTC 0485		LTC 0498	
	Day/Night — NightSense	No		Yes		Yes		No	
	Day/Night — IR sensitive (removable IR filter)	No		No		No		Yes	
	XF-Dynamic — Wide dynamic range	No		No		Yes		Yes	
	2X-Dynamic — Wide dynamic range	No		No		No		Yes	
	Default Shutter	No		No		Yes		Yes	
	Auto Lens Detection	Yes		Yes		Yes		Yes	
	Privacy Zones	No		No		No		Yes	
	SensUp — Enhanced sensitivity	No		No		Yes		Yes	
	Backlight Compensation (BLC)	Yes		Yes		Yes		Yes (Smart)	
	AutoBlack	No		Yes		Yes		Yes	
	Dynamic Noise Reduction (DNR)	No		No		Yes		Yes	
	Video Motion Detection (VMD)	No		No		Yes		Yes	
	Cable compensation	No		No		Yes		Yes	
	Maximum resolution (color)	330 TVL		540 TVL		540 TVL		540 TVL	
	Maximum resolution (monochrome)	380 TVL		570 TVL		570 TVL		540 TVL	
	Color*	0.17		0.30		0.24		0.15	
	Color w/SensUp*	n/a		n/a		0.024		0.015	
Monochrome*	0.05		0.04		0.031		0.060		
Monochrome w/SensUp*	n/a		n/a		0.0031		0.0060		
Inputs/Outputs	0/0		0/0		1/1		1/1		
Video Output	BNC		BNC		BNC		BNC		
12 VDC/24 VAC	Yes		Yes		Yes		Yes		
120 VAC	Yes		Yes		Yes		Yes		
Billinx remote configuration tool	Yes		Yes		Yes		Yes		
Test Pattern Generator (TPG)	No		No		No		Yes		
Lens focus wizard	Yes		Yes		Yes		Yes		
Coverage period	3 years		3 years		3 years		3 years		
Ready-to-go, factory assembled pre-packaged camera kits include:	INDOOR: KBN-335 (Mono) KBN-435 (Color)		INDOOR: KBN-355 (Mono) KBN-455 (Color)		INDOOR: KBN-385 (Mono) KBN-485 (Color)		INDOOR: KBN-498		
- Dinion camera									
- Lens	OUTDOOR: KBE-335 (Mono) KBE-435 (Color)		OUTDOOR: KBE-355 (Mono) KBE-455 (Color)		OUTDOOR: KBE-385 (Mono) KBE-485 (Color)		OUTDOOR: KBE-498		
- Indoor/outdoor housing									
- Assembled, pre-wired, back-focused									



*F1.2 Lens, 89% scene reflectance, 30 IRE



Camera Selection Chart



Lenses

Varifocal, manual iris	
LTC 3361/50	1/3-inch 2.8-10.0mm (F1.4)
LTC 3361/41	1/3-inch 2.8-12.0mm (F1.4)
LTC 3361/32	1/3-inch 3.0-8.0mm (F1.4)
LTC 3361/60	1/3-inch 3.5-8.0mm (F1.4)
LTC 3371/21	1/3-inch 5.0-50.0mm (F1.4)
LTC 3371/50	1/3-inch 5.0-50.0mm (F1.4)
Varifocal, auto-iris	
LTC 3364/50	1/3-inch 2.8-10.0mm, AI (F1.4)
LTC 3364/32	1/3-inch, 3 - 8mm, AI (F1.0)
LTC 3364/60	1/3-inch 3.5-8.0mm, AI (F1.4)
LTC 3374/21	1/3-inch 5.0-50.0mm, AI (F1.4)
LTC 3374/50	1/3-inch 5.0-50.0mm, AI (F1.7)
Varifocal, auto-iris (IR Corrected)	
LTC 3364/21	1/3-inch 2.8-6.0mm, AI (F1.4)
LTC 3364/30	1/3-inch 3.0-8.0mm, AI (F1.0)
LTC 3664/40	1/3-inch 2.8-11.0mm, AI (F1.4)
LTC 3664/30	1/3-inch 3.0-8.0mm, AI (F1.0)
LTC 3674/20	1/3-inch 7.5-50.0mm, AI (F1.3)
Motorized zoom, auto-iris	
LTC 3384/21	1/3-inch 6.0-60.0mm, 10X (F1.4)

FlexiDome Cameras Quick Guide



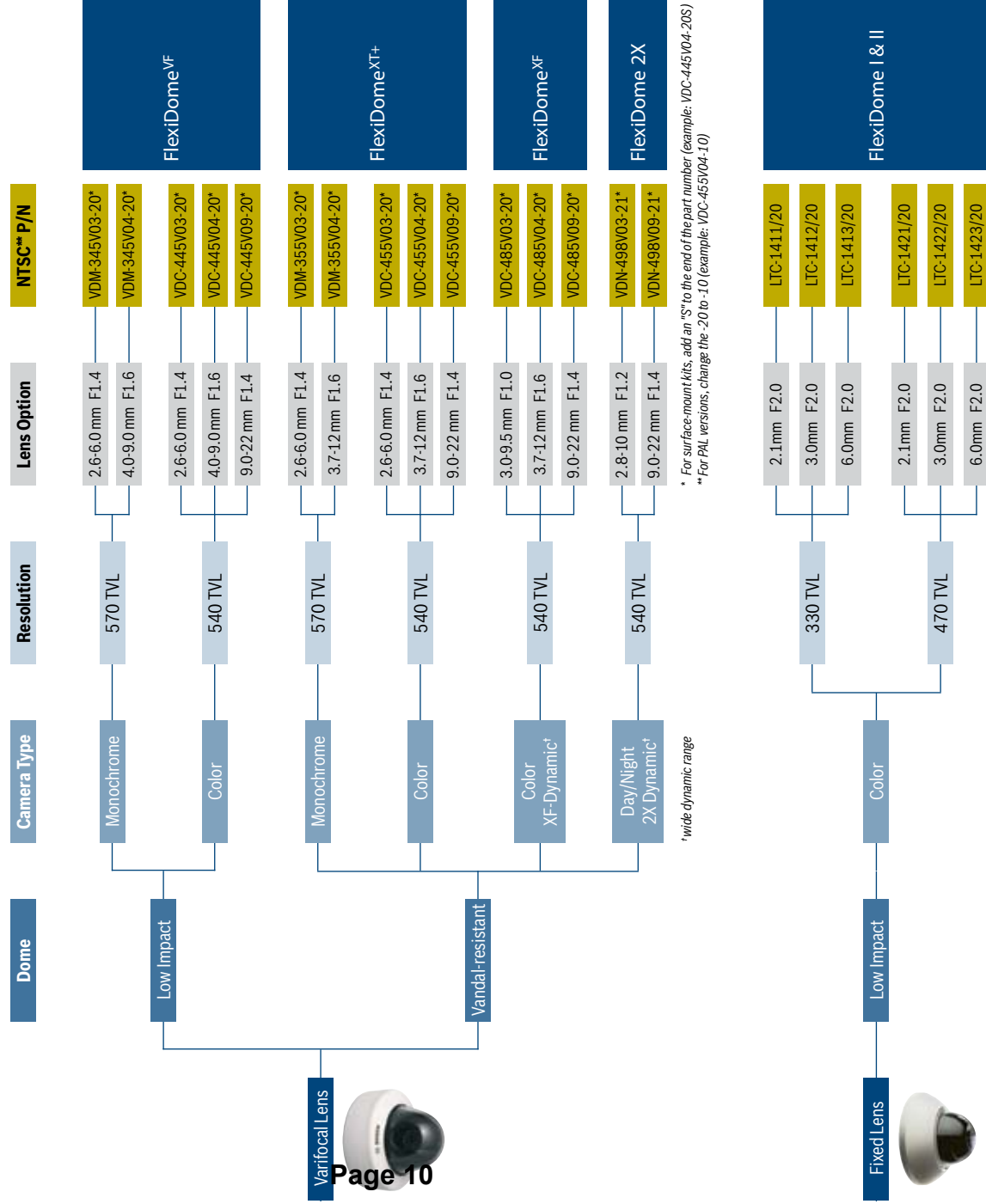
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General Purpose							High Performance	Day/Night
FlexiDome I Series		FlexiDome II Series		FlexiDome VF	FlexiDome XT+	FlexiDome xF	FlexiDome 2X	
Imaging Features	Image sensor type	1/4" Interlaced CCD		1/4" Interlaced CCD		1/3" Interlaced CCD		1/3" Interlaced CCD
	Day/Night — NightSense	No		No		Yes		No
	Day/Night — IR sensitive (removable IR filter)	No		No		No		Yes
	XF-Dynamic — Wide dynamic range	No		No		No		Yes
	2X-Dynamic	No		No		No		Yes
	SensUp — Enhanced sensitivity	No		No		No		Yes
	Default Shutter	No		No		No		Yes
	Privacy Zones	No		No		No		Yes
	Backlight compensation (BLC)	Yes		Yes		Yes		Yes (Smart)
	AutoBlack	No		No		Yes		Yes
Resolution	Dynamic Noise Reduction (DNR)	No		No		No		Yes
	Video motion detection	No		No		No		Yes
	Maximum resolution (color)	330 TVL		470 TVL		540 TVL		540 TVL
	Maximum resolution (monochrome)	380 TVL		570 TVL		570 TVL		540 TVL
	Color	2.0 (F2.0, 30 IRE)		2.0 (F2.0, 30 IRE)		0.44 (F1.4, 30 IRE)*		0.16 (F1.0, 30 IRE)
	Color w/SensUp	n/a		n/a		n/a		0.016 (F1.0, 30 IRE)
	Monochrome	0.3 (F2.0, 30 IRE)		0.3 (F2.0, 30 IRE)		0.39 (F1.4, 30 IRE)		0.056 (F1.0, 30 IRE)
	Focal length/F-stop	2.1 mm, F2.0 3.0 mm, F2.0 6.0 mm, F2.0		2.1 mm, F2.0 3.0 mm, F2.0 6.0 mm, F2.0		2.6 - 6.0 mm, F1.4 4.0 - 9.0 mm, F1.6 9.0 - 22 mm, F1.4		3.0 - 9.5 mm, F1.0 3.7 - 12.0 mm, F1.6 9.0 - 22 mm, F1.4
	Impact rating	Low impact		Low impact		High impact		High impact
	Ingress rating	No		No		IP66/NEMA 4X		IP66/NEMA 4X
Housing and Power	Tamper-proof	No		No		Yes		Yes
	Temperature range (operating)	14° F to 113° F		14° F to 113° F		-58° F to 122° F		-58° F to 131° F
	Voltage range	12 to 28 VDC 12 to 28 VAC		12 to 28 VDC 12 to 28 VAC		10.8 to 39 VDC 12 to 28 VAC		24 VAC ± 10% 12 VDC ± 10%
	Power consumption	2W for all voltages		2W for all voltages		6W for all voltages		6W for all voltages
	Blinx remote configuration tool	No		No		Yes		Yes
	Test Pattern Generator	No		No		No		Yes
	Focus aid	No		No		Yes		Yes
	Lens focus wizard	No		No		Yes		Yes
	Service monitor output	No		No		Yes		Yes
	Coverage period	3 years		3 years		3 years		3 years
Warranty								3 years



Camera Selection Chart



Optional Mounts



Hardware and Accessories

Power Supplies	
UPA-2410-60	Input: 120 VAC, 60Hz, Single Output; 24 VAC, 10 VA
UPA-2430-60	Input: 120 VAC, 60Hz, Single Output; 24 VAC, 30 VA
Surface Mount Box	
VDA-445SMB	Surface mount box for FlexiDome ^{VF}
VDA-455SMB	High impact surface mount box for ^{VF} , ^{XT+} , ^{XF} , ^{DN}
Tinted Dome	
VDA-455TBL	Tinted dome for FlexiDome Series
UTP Adapter	
VDA-455UTP	Converts BNC/Coax to UTP for transmission of composite video over Cat5/Cat6/Cat6 UTP cabling
Service/Monitor Cable	
S1460	1-meter 2.5mm connector to BNC (^{VF} , ^{XT+} , ^{XF} , ^{DN})
Bilinix Configuration Tool	
VP-CFGSFT	Setup and configure cameras over the video cable (FlexiDome ^{VF} , ^{XT+} , ^{XF} , ^{DN})

Quick Selection Guide

KBN and KBE Pre-packaged Cameras



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		General Purpose		High Sensitivity			Day/Night	
		Standard Resolution	High Resolution	IP	1/3" Ext. Dyn. Range	1/2" Ext. Dyn. Range	1/3" Ext. Dyn. Range	IP
Image Sensor		1/3" CCD	1/3" CCD	1/3" progressive scan CCD	1/3" CCD	1/2" CCD	1/3" CCD	1/3" progressive scan CCD, 2X WDR
Camera Type	Day/Night	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	IR Sensitive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Extended / Wide Dynamic Range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Enhanced Sensitivity (SensUp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Video Motion Detection (VMD)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Intelligent Video Analysis (IVA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Intelligence	Privacy Masking	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	AutoBlack	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Tamper Detection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Maximum Resolution	330 TVL	540 TVL	704 X 480 (4CIF)	540 TVL	540 TVL	540 TVL	704 X 480 (4CIF)
	Fixed focal length, Auto iris	2.8 - 10 mm 5 - 50 mm	2.8 - 10 mm 5 - 50 mm	2.8 - 10 mm 2.8 - 11 mm (a) 5 - 50 mm	2.8 - 10 mm 5 - 50 mm	2.8 - 10 mm 4 - 12 mm (a) 7.5 - 75 mm	2.8 - 10 mm 7.5 - 50 mm (a) 7.5 - 75 mm	2.8 - 11 mm (a) 7.5 - 50 mm
	Color	0.53	0.88	0.88	0.8	0.35	0.65	0.65
Lens Options (F1.4 @ 50 IRE)	Color w/NightSense or Day/Night	N/A	0.35	0.35	0.0327	0.018	0.26	0.26
	Color w/SensUp	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Monochrome	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Monochrome w/SensUp	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Installation/ Service	Blinx remote configuration tool	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	On-screen Display	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Lens Focus Wizard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Compression / Multistreaming	N/A	N/A	(2) H.264 (1) M-JPEG	N/A	N/A	N/A	(2) H.264 (1) M-JPEG
IP Streaming	Images Per Second Color (max.)	N/A	N/A	30 @ 4CIF	N/A	N/A	N/A	30 @ 4CIF
	Hybrid (Composite Video Output)	N/A	N/A	<input checked="" type="checkbox"/>	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Housings	Operating Temperature (outdoor model)	-4° to 122° F -20° to 50° C	-4° to 122° F -20° to 50° C	-4° to 122° F -20° to 50° C	-4° to 122° F -20° to 50° C	-4° to 122° F -20° to 50° C	-4° to 131° F -20° to 55° C	-4° to 122° F -20° to 50° C
	All-weather Rating	IP66/NEMA 4X	IP66/NEMA 4X	IP66/NEMA 4X	IP66/NEMA 4X	IP66/NEMA 4X	IP66/NEMA 4X	IP66/NEMA 4X
Power	Input Voltage	24 VAC, 60 Hz	24 VAC, 60 Hz	24 VAC, 60 Hz	24 VAC, 60 Hz	24 VAC, 60 Hz	24 VAC, 60 Hz	24 VAC, 60 Hz
	Power Consumption	4 W (indoor) 45 W (outdoor)	4 W (indoor) 45 W (outdoor)	8 W (indoor) 45 W (outdoor)	4 W (indoor) 45 W (outdoor)	4 W (indoor) 45 W (outdoor)	4 W (indoor) 45 W (outdoor)	8 W (indoor) 45 W (outdoor)
Mounts	Power Over Ethernet (PoE)	N/A	N/A	Yes (camera only)	N/A	N/A	N/A	Yes (camera only)
	Feed-through Wall Mount (12")	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Pole Mount (optional)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(a) /R corrected

KBN and KBE Pre-packaged Cameras



KBN and KBE Series Prepackaged Cameras Selection Chart		Housing	Camera Type	Camera Series	Lens	Power	Communications Options	Intelligent Video Analysis	Description	
General Purpose	1/3" Cameras	Indoor Outdoor	Color	1/3" Standard res. 1/3" High res. 1/2" High res	2.8 - 10 mm 2.8 - 11 mm 4 - 12 mm 5 - 50 mm 7.5 - 50 mm 7.5 - 75 mm 10 - 40 mm	24 VAC	UTP Fiber TCP / IP	IVA	Indoor housing Outdoor housing Color 1/3" Standard resolution 1/3" High resolution 2.8 - 10 mm 5 - 50 mm TCP / IP (455 series only) With IVA (455 series IP models only)	
		KBN					20			
		KBE	4		35 55	V28 V55				
								N		
									V	
High Sensitivity	1/3" Cameras	KBN							Indoor housing	
		KBE	4		85	V28 V55				Outdoor housing Color 1/3" High resolution, high sensitivity 2.8 - 10 mm 5 - 50 mm Fiber UTP
								F		
								U		
	1/2" Cameras	KBE	6	10	V41 V75		F U		Outdoor housing Color 1/2" High resolution, high sensitivity 4 - 12 mm 7.5 - 75 mm Fiber UTP	
	1/3" Cameras	KBN							Indoor housing	
		KBE	4		98	V28 V75				Outdoor housing Color 1/3" High resolution, high sensitivity 2.8 - 10 mm 2.8 - 11 mm (IP models only) 7.5 - 50 mm Fiber UTP
								F U N		TCP/IP (498 series only) With IVA (498 series IP models only)
									V	
Day/Night	1/2" Cameras	KBE	6	30	V14 V41				Outdoor housing Color 1/2" High resolution, high sensitivity 10 - 40 mm 4-12 mm Fiber UTP	
								F U		

CCTV Illumination from Bosch

Quick Selection Guide



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EX12LED IR

AEGIS UFLED & SuperLED IR

AEGIS UFLED & SuperLED White Light

EX65 Explosion Protected IR

Key features & benefits

- ▶ Intelligently designed for long life, high reliability and low cost of ownership
- ▶ Innovative 3D diffuser even illumination technology directs light to exactly where the camera needs it, for night-time images free from overexposure and shadows
- ▶ Unique Constant Light technology automatically compensates for LED degradation, caused by aging and temperature fluctuations, to guarantee a constant level of lighting performance
- ▶ Energy efficient, low voltage operation enables easy installation, maximum flexibility and low running costs
- ▶ Optimizes the performance of analogue and megapixel cameras, IP and video analytics at night
- ▶ Semi-covert and covert infrared options enable discreet video vigilance and do not cause light pollution
- ▶ Quick start, visible white light can be used to safely illuminate areas and with a PIR trigger to deter criminal activities
- ▶ Explosion protected infrared can be used in hazardous areas where robust, reliable solutions are needed

EX12LED IR

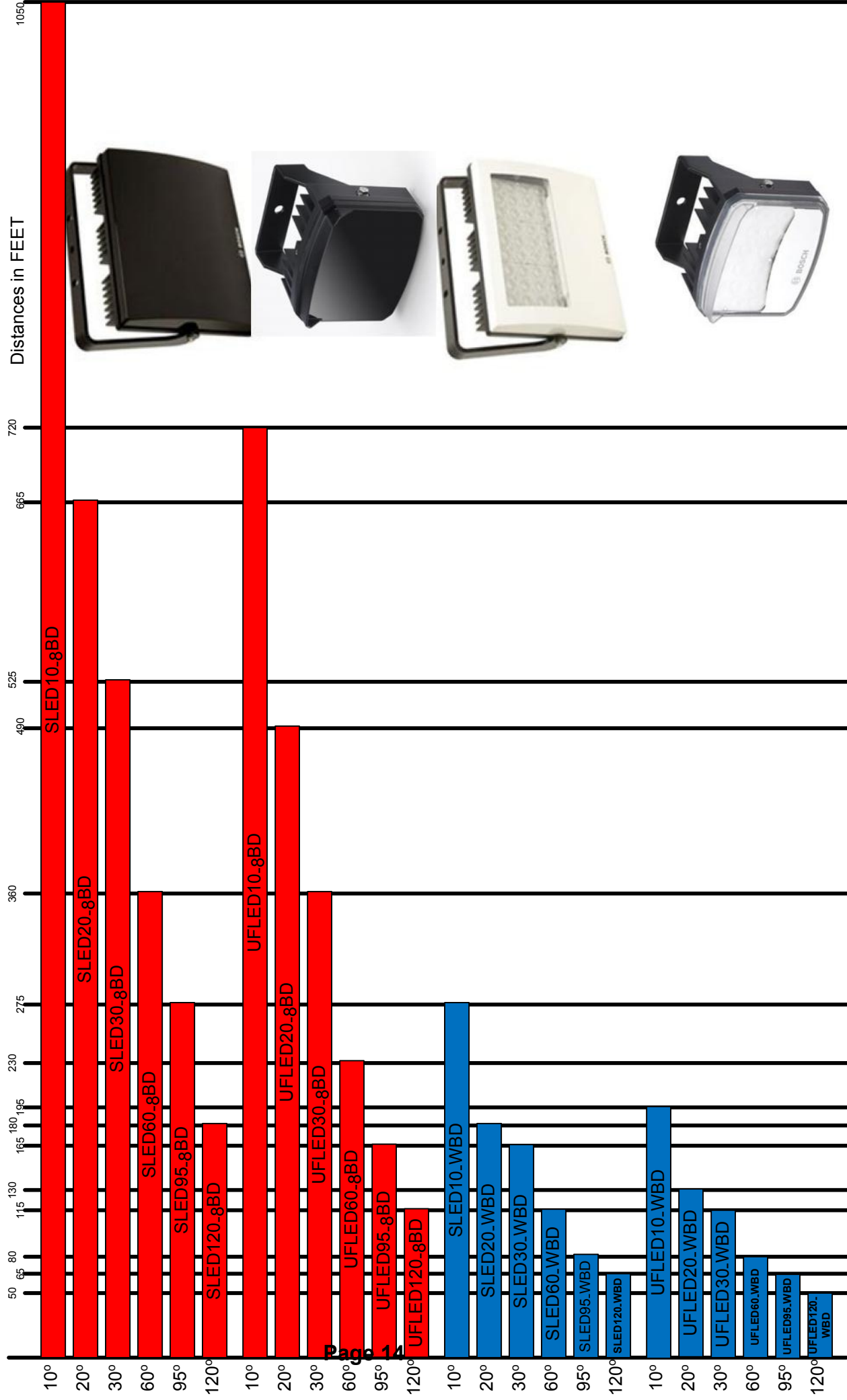
AEGIS UFLED & SuperLED IR

AEGIS UFLED & SuperLED White Light

EX65 Explosion Protected IR

Order codes

EX12LED-3BD-8M, 30°, 30m	UFLED (beam angle)-8BD, 850nm, max. 220m	UFLED (beam angle), white light, max. 60m	LED-658-AM, 20°, 55m, aluminum
EX12LED-3BD-8W, 60°, 15m	UFLED (beam angle)-9BD, 940nm, max. 135m	SLED (beam angle), white light, max. 85m	LED-658-AW, 50°, 40m, aluminum
EX12LED-3BD-9M, 30°, 15m	SLED (beam angle)-8BD, 850nm, max. 320m		LED-658-SM, 20°, 55m, stainless steel
EX12LED-3BD-9W, 60°, 7m	SLED (beam angle)-9BD, 940nm, max. 190m		LED-658-SW, 50°, 40m, stainless steel



Quick Selection Guide

Extreme Series: All-Environment Cameras



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All-Environment						
Camera Information	Camera Type	EX10	EX14	EX14-M	EX14N	EX27N
	Camera Options	Extreme Environment	Extreme Environment	Marine	Integrated Day/Night	All-environment
	Image Sensor	High Resolution Day/Night	High Resolution Day/Night	High Resolution Day/Night	High Resolution Day/Night	High Resolution Day/Night
	Day/Night	1/3" CCD	1/3" CCD	1/3" CCD	1/3" CCD	1/3" CCD
	Lens Option	■ 2.5 mm, 2.9 mm, 3.6 mm 4.3 mm, 6.0 mm, 8 mm, 12 mm, 16 mm	■ 4 - 9 mm * 9 - 22 mm *	■ 4 - 9 mm *	■ 4 - 9 mm *	■ 4 - 9 mm *
Sensitivity [F1.4]	Min. Illumination (day mode)	2.7 lux (Color)	2.7 lux @F1.4 (Color)	0.1 lux (Color)	0.02 lux	0.02 lux
	Min. Illumination (night mode)	0.02 lux (D/N)	0.02 lux (D/N)	0.001 lux (D/N)	0 lux	0 lux
Infrared	Integrated IR	□	□	■	■	■
	Wavelength	N/A	N/A	940 nm	850 nm	850 or 940 nm
	Night Vision Max. Range	N/A	N/A	40 ft (12 m)	40 ft (12 m)	40 ft (12 m)
Power	3D Diffuser	N/A	N/A	■	□	■
	Input Voltage	12-24 VAC or VDC	12-24 VAC or VDC	12-24 VAC or VDC	12-24 VAC or VDC	12-24 VAC or VDC
	Max. Power Consumption	1.4 W	2 W	5 - 8 W	4.5 W	4.5 W
Environmental	Operating Temperature	-76° to +140° F -60° to +60° C	-76° to +140° F -60° to +60° C	-76° to +140° F -60° to +60° C	-76° to +140° F -60° to +60° C	-58° to 122° F -50° to 50° C
	Construction	ABS / nylon resin	ABS / nylon resin	Acrylonitrile Styrene Acrylate and Polycarbonate resin	ABS / nylon resin	Aluminum
	All-weather Rating	IP67 / NEMA6 / NEMA6P	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X	IP66 / NEMA 4X

* Auto-iris, IR Corrected

Quick Selection Guide

Extreme Series: Vandal-Proof Cameras



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Vandal-Proof



		EX36	EX36-IP	EX36N
Camera Information	Camera Type	Corner-mount No-grip Camera	Corner-mount No-grip Camera	Corner-mount No-grip Camera
	Mounting Type	Corner Mount	Corner Mount	Corner Mount
	Camera Options	High Resolution Color	Color or High-Performance Day/Night	High Resolution Day/Night
Imaging	Image Sensor	1/3" CCD	1/3" CCD	1/3" CCD
	Day/Night	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Pan-Tilt-Twist Gimbal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Lens Options	2.5 mm 3.6 mm	2.5 mm 3.6mm	2.5 mm 3.6 mm
Sensitivity [F1.4]	Min. Illumination (day mode)	2.7 lux (Color)	2.7 lux (Color)	0.02 lux
	Min. Illumination (night mode)	N/A	0 lux (D/N)	0 lux
	Integrated IR	<input type="checkbox"/>	<input checked="" type="checkbox"/> *	<input checked="" type="checkbox"/>
Infrared	Wavelength	N/A	850 or 940 nm	850 or 940 nm
	Night Vision Max. Range	N/A	30 ft. (9 m)	30 ft (9 m)
	Constant Light	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Power	3D Diffuser	N/A	<input checked="" type="checkbox"/> *	<input checked="" type="checkbox"/>
	Input Voltage	12 - 24 VAC or VDC	12 VDC / 24 VAC	12 - 24 VAC or VDC
	Max. Power Consumption	1.4 W	11W	10.8 W
Environmental	Operating Temperature	-58° to 122° F -50° to 50° C	-58° to 122° F -50° to 50° C	-58° to 122° F -50° to 50° C
	Vandal Resistant	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	All-weather Rating	N/A	N/A	N/A

* IR models only

Quick Selection Guide

Extreme Series: Infrared Imagers



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Infrared Imagers



VEI-30



NEI-30

Camera Information	Camera Type	Union Infrared Imager	Union IP Infrared Imager
	Camera Options	Union 2X Day/Night	Union 2X Day/Night
Imaging	Image Sensor	1/3" CCD	1/3" CCD
	Day/Night	■	■
	Lens Options	5 - 50 mm *	5 - 50 mm *
Sensitivity [F1.4]	Min. Illumination (day mode)	0.047 lux (Color) **	0.047 lux (Color) **
	Min. Illumination (night mode)	0 lux	0 lux
	Integrated IR	■	■
Infrared	Wavelength	850 or 940 nm	850 or 940 nm
	Constant Light	■	■
	3D Diffuser	■	■
Power	Input Voltage	12 VDC/24 VAC	12 VDC/24 VAC
	Max. Power Consumption	35 W	35 W
	Power over Ethernet + (PoE+)	N/A	■
Environmental	Operating Temperature	-40° to 122° F -40° to 50° C	-40° to 122° F -40° to 50° C
	All-weather Rating	IP67 / NEMA 4X	IP67 / NEMA 4X
	Detection	525 ft (160 m)	525 ft (160 m)
IR Performance Range ±	Classification	390 ft (120 m)	390 ft (120 m)
	Recognition	295 ft (90 m)	295 ft (90 m)
	Identification	165 ft (50 m)	165 ft (50 m)

* Auto-iris, IR Corrected

** SensUp On @ F1.2, 50 IRE

± Zero lux environment at 850 nm illumination

Quick Selection Guide

Extreme Series: Explosion-Protected



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Explosion-Protected



EX65 Camera

MIC 440

EX65 Illuminator

Camera Information	Camera Type	Explosion-protected Camera	Explosion-protected PTZ Camera	Explosion-protected Infrared Illuminator
Camera Options	Color, Day/Night	PTZ Day/Night		n/a
Image Sensor	1/3" CCD	1/3" CCD		n/a
Day/Night	■	■		n/a
Lens Options	5 - 50 mm *	4.1 - 73.8 mm (18x) 3.4 - 122.4 mm (36x)		n/a
Min. Illumination (day mode)	0.047 lux (Color) **	0.7 lux (18x) 1.4 lux (36x)		n/a
Min. Illumination (night mode)	0.019 lux **	0.01 lux (18x) 0.1 lux (36x)		n/a
Integrated IR	□	□		■
Wavelength	N/A	N/A		850 nm
Night Vision Max. Range	N/A	N/A		178 ft (54 m)
Beam Angle	N/A	N/A		20° or 50°
LED	N/A	N/A		10x High-efficiency Surface Mount LED's
Constant Light	N/A	N/A		■
3D Diffuser	N/A	N/A		■
Input Voltage	12-24 VAC or VDC	18 VAC		-
Max. Power Consumption	22 W	25.2 W		40 W
Operating Temperature	-58° to 140° F (-50° to 60° C) Aluminum -58° to 131° F (-50° to 55° C) Stainless	-4° to +140° F -20° to +60° C		-58° to +140° F -50° to +60° C
Construction	Stainless Steel or Anodized aluminum	Machined, Alodined, Powder-coated aluminum		Stainless Steel or Anodized aluminum
Class I, II, III Division 1,2	✓	I,II		✓
Group A	✓	✓		✓
Group B,C,D,E,F,G	C,D,E,F,G	C,D,E,F,G		C,D,E,F,G
ATEX Ex II 2G	✓	✓		✓
ATEX Exd IIC T6	✓	✓		✓
Temp Code T6	✓	✓		✓
CSA/NEMA 4X compliant	✓	✓		✓

* Auto-iris, IR Corrected

** SensUp On @ F1.2, 50 IRE

Hazardous Location Cameras Product Guide



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Hazardous Location	EX52	EX60LED	EX62XF	EX70	EX70N	EX72	EX72N	EX72LED	MIC440
Type	Color, Day/Night	Infrared Illuminator	Day/Night	Color, Day/Night	Day/Night with Infrared	Color, Day/Night	Day/Night with Infrared	Infrared Illuminator	PTZ Day/Night Camera
Lens	4-9mm Auto-iris, IR Corrected 9-22mm Auto-iris, IR Corrected	NA	4-12mm Auto-iris, IR Corrected 10-40mm Auto-iris, IR Corrected	3.6mm, 6mm	3.6mm, 6mm	4-9mm Auto-iris, IR Corrected 9-22mm Auto-iris, IR Corrected	4-9mm Auto-iris, IR Corrected 9-22mm Auto-iris, IR Corrected	NA	Zoom Module 4.1-73.8mm (18x) 3.4-122.4mm (36x)
Integrated Infrared	No	Yes	No	No	Yes	No	Yes	Yes	No
Non-Flame Vision Distance	NA	60ft (18m)	NA	NA	40ft (12m)	NA	40ft (12m)	60ft (18m)	NA
Class I, II, III	✓	✓	✓	✓	✓	✓	✓	✓	I, II
Division 1, 2	✓	✓	✓	✓	✓	✓	✓	✓	1
Group A	✓	✓	✓						
Group B, C, D, E, F, G	✓	✓	✓	✓	✓	✓	✓	✓	C, D, E, F, G
ATEX Ex II 2G				✓	✓	✓	✓	✓	✓
ATEX Exd IIC T6				✓	✓	✓	✓	✓	✓
Temp Code T6	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSA/NEMA 4 compliant	✓	✓	✓						
CSA/NEMA 4X compliant				✓	✓	✓	✓	✓	✓
Operational Temperature	-50° to +50°C -58° to +122°F	-50° to +55°C -58° to +131°F	-50° to +50°C -58° to +122°F	-50° to +40°C -58° to +104°F	-50° to +40°C -58° to +104°F	-50° to +40°C -58° to +104°F	-50° to +40°C -58° to +104°F	-50° to +40°C -58° to +104°F	-20° to +60°C -4° to +140°F
Power Consumption	5W Max	15W Max	40W Max	3.9W Max	8W Max	3.9W Max	8W Max	15W Max	25.2W Max

Quick Selection Guide

License Plate Capture Cameras



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		Close Range	Mid-Long Range		Dual Overview
Camera Information	Camera Type	Close Range	Dinion capture 5000		Dinion capture 7000
	Max. Capture Range	25 ft (7.6 m)	IP Mid-Long Range		Mid-Long Range with Color Overview Camera
	Max. Capture Speed	50 mph (80 km/h)	140 mph (225 km/h) *		140 mph (225 km/h) *
Imaging	Sensor Type	1/3" CCD, Monochrome	1/3" CCD, Monochrome		1/3" CCD, Monochrome
	Resolution	500 TVL	4CIF (704 x 480)		540 TVL
	AutoBlack	No	Yes		Yes
	Integrated Infrared	Yes	Yes		Yes
Infrared	Frequency	850 nm	850 nm		850 nm
Streaming	Compression	–	–		–
	Images Per Second (max.)	–	30 @ 4CIF		–
Power	Max. Power Consumption	12 W	22 W; 13 W (PoE+)		36 W
	Power over Ethernet (PoE+)	No	Yes		No
Environmental	Weatherproofing	IP66	IP 67, NEMA 4X		IP 67, NEMA 4X
	Operational Temperature	–22° to 131° F (–30° to 55° C)	–40° to 122° F (–40° to 50° C)		–40° to 122° F (–40° to 50° C)
Construction	Material	Robust, weather sealed aluminum casting and extrusion	Robust, weather sealed aluminum casting and extrusion; Borosilicate window	Robust, weather sealed aluminum casting and extrusion; Borosilicate window	Robust, weather sealed aluminum casting and extrusion; Borosilicate window
	Standard Colors	Black	White		White
	Dimensions	3.8 x 8.6 in (96 x 219 mm)	13.3 x 6.1 x 5.5 in *** (340 x 154 x 139 mm)		13.8 x 10.6 x 5.5 in *** (350 x 269 x 139 mm)
	Weight	2.7 lb (1.2 kg)	9.7 lb (4.4 kg)		15 lb (6 kg)

* Must meet 30° mounting criteria

** –4° to 122° F (–20° to 50° C) with PoE+

*** Housing and sunshield only



Order Codes

REG-X Order Codes	Description
REG-X-816-XE	500 TVL, 1/3 in CCD, 15 to 25 ft, 16 mm lens, EIA. PSU sold separately.

DINION capture 5000	Description
VER-L2R1-2	Analog NTSC license plate camera, 12.5 to 21 ft (3.8 to 6.4 m) range
VER-L2R2-2	Analog NTSC license plate camera, 18 to 30 ft (5.5 to 9.1 m) range
VER-L2R3-2	Analog NTSC license plate camera, 26 to 45 ft (7.9 to 13.7 m) range
VER-L2R4-2	Analog NTSC license plate camera, 37 to 64 ft (11.3 to 19.5 m) range
VER-L2R5-2	Analog NTSC license plate camera, 54 to 92 ft (16.5 to 28.0 m) range

DINION capture 5000 IP	Description
NER-L2R1-2	IP NTSC license plate camera, 12.5 to 21 ft (3.8 to 6.4 m) range
NER-L2R2-2	IP NTSC license plate camera, 18 to 30 ft (5.5 to 9.1 m) range
NER-L2R3-2	IP NTSC license plate camera, 26 to 45 ft (7.9 to 13.7 m) range
NER-L2R4-2	IP NTSC license plate camera, 37 to 64 ft (11.3 to 19.5 m) range
NER-L2R5-2	IP NTSC license plate camera, 54 to 92 ft (16.5 to 28.0 m) range

Dinion capture 70000	Description
VER-D2R1-2	Analog NTSC license plate camera, 12.5 to 21 ft (3.8 to 6.4 m) range, with day/night overview camera
VER-D2R2-2	Analog NTSC license plate camera, 18 to 30 ft (5.5 to 9.1 m) range, with day/night overview camera
VER-D2R3-2	Analog NTSC license plate camera, 26 to 45 ft (7.9 to 13.7 m) range, with day/night overview camera
VER-D2R4-2	Analog NTSC license plate camera, 37 to 64 ft (11.3 to 19.5 m) range, with day/night overview camera
VER-D2R5-2	Analog NTSC license plate camera, 54 to 92 ft (16.5 to 28.0 m) range, with day/night overview camera

Accessories	Description
PSU-124-DC050	Universal Outdoor Power Supply 24 VDC
WZMB.001	Gang box adapter plate for REG-X
MBE-15W	White Pole Mount Adapter Plate. Used to attach an MBE-27 or MBE-28 along with an EXMB.020B Heavy Duty L Bracket to a pole.
MBE-17W	White Wall Mount Adapter Plate. Used to attach an MBE-27 or MBE-28 along with an EXMB.020B Heavy Duty L Bracket to a wall.
VP-CFGSFT	Camera configuration software for use with Bilinx cameras

Quick Selection Guide

IP Cameras

Fixed Cameras

				
	Dinion IP Series NBC-455	Dinion IP DN Series NBN-498	Dinion HD 720p DN NBN-921	Dinion HD 1080p DN NBN-832
Image Sensor Type	1/3" progressive scan CCD	1/3" progressive scan CCD	1/3" progressive scan CCD	1/2.7" progressive scan CMOS
Day/Night	■	■	■	■
IR Sensitive	□	■	■	■
Wide Dynamic Range (WDR)	□	■	□	□
Video Motion Detection	■	■	■	■
Privacy Masking	■	■	■	■
Auto Black	■	■	■	□
Intelligent Video Analysis (IVA) §	■	■	■	■
Lens	C/CS	C/CS	C/CS	C/CS
Minimum Illumination (day mode) [lux] §	0.3	0.015	1.0	0.5
Minimum Illumination (night mode) [lux] §	0.012	0.006	0.04	0.08
Compression / Multistreaming	H.264 Tri-streaming *	H.264 Tri-streaming *	H.264 Quad-streaming **	H.264 Quad-streaming **
Images Per Second Color (max.)	30 @ 4CIF	30 @ 4CIF	30 @ 720p	30 @ 1080p
Maximum Resolution	704 x 480 (4CIF)	704 x 480 (4CIF)	1280 x 720 (HD 720p)	1920 x 1080 (HD 1080p)
Alarm Input / Output	2/1	2/1	2/1	2/1
Audio / Audio Alarm	■	■	■	■
Power Over Ethernet (PoE)	■	■	■	■
Power Consumption	6W	6.6W - 9.6W	6.6W - 9.6W	4.8W - 8.4W
Operating Temperature §	-4° to 122° F (-20° to 50° C)	-4° to 122° F (-20° to 50° C)	-4° to 122° F (-20° to 50° C)	-4° to 131° F (-20° to 55° C)
SD Card Slot	Yes, 32 GB max.	Yes, 32 GB max.	Yes, 32 GB max.	Yes, 2 TB max.
Vandal Resistant	n/a	n/a	n/a	n/a
All-weather Rating	n/a	n/a	n/a	n/a

Footnotes

- § Refer to datasheet for individual camera details
- ± Extended temp heater module extends temperature range to -7°6 F (-60° C) for EnviroDome only
- * Two (2) H.264 streams with one (1) M-JPEG stream
- ** Three (3) H.264 streams (720p HD, downsampled resolution, and HD I-frame only) with one (1) M-JPEG stream.
- *** Three (3) H.264 streams with one (1) M-JPEG stream. During full bandwidth operation (1080p30) the second stream is an exact copy of the first. In reduced bandwidth mode (720p30) the second stream is an independently configurable, downsampled-resolution stream. In both modes the third H.264 stream consists of HD I-frames only.



Quick Selection Guide

IP Cameras



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Fixed MiniDomes

					
	FlexiDome IP NDC-455	FlexiDome IP DN NDN-498	FlexiDome HD 720p NDN-921	FlexiDome HD 1080p NDN-832	AutoDome Junior HD Fixed VJR-F801
Image Sensor Type	1/3" progressive scan CCD	1/3" progressive scan CCD	1/3" progressive scan CCD	1/2.7" progressive scan CMOS	1/2.5" progressive scan CMOS
Day/Night	■	■	■	■	■
IR Sensitive	□	■	■	■	■
Wide Dynamic Range (WDR)	□	■	□	□	□
Video Motion Detection	■	■	■	■	■
Privacy Masking	■	■	■	■	■
Auto Black	■	■	■	□	□
Intelligent Video Analysis (IVA)	■	■	■	■	■
Lens	2.8 to 10 mm 9.0 to 22 mm	2.8 to 10 mm 9.0 to 22 mm 6.0 to 50 mm	3 to 9 mm	1.8 to 3 mm 3.8 to 13 mm 9 to 40 mm	2.4 to 24 mm 10x optical zoom 16x digital zoom
Minimum Illumination (day mode) [lux] §	0.3	0.028	1.0	0.5	1.1
Minimum Illumination (night mode) [lux] §	0.012	0.0099	0.04	0.08	0.06
Compression / Multistreaming	H.264 Tri-streaming *	H.264 Tri-streaming *	H.264 Quad-streaming **	H.264 Quad-streaming **	H.264 Quad-streaming ***
Images Per Second Color (max.)	30 @ 4CIF	30 @ 4CIF	30 @ 720p	30 @ 1080p	60 @ 720p, 30 @ 1080p
Maximum Resolution	704 x 480 (4CIF)	704 x 480 (4CIF)	1280 x 720 (HD 720p)	1920 x 1080 (HD 720p)	1920 x 1080 (HD 1080p)
Alarm Input / Output	2/1	2/1	2/1	2/1	2/1
Audio / Audio Alarm	■	■	■	■	■
Power Over Ethernet (PoE)	■	■	■	■	■
Power Consumption	8W	6.6 - 9.6W	6.6 - 9.6W	9.6 - 16.8W	14W
Operating Temperature §	-58° to +122° F (-50° to +50° C) [w/ heater on]	-58° to +122° F (-50° to +50° C) [w/ heater on]	-58° to +122° F (-50° to +50° C) [w/ heater on]	-58° to +131° F (-50° to +55° C) [w/ heater on]	14° to 104°F (-10° to 40°C)
SD Card Slot	Yes, 32 GB max.	Yes, 32 GB max.	Yes, 32 GB max.	Yes, 2 TB max.	n/a
Vandal Resistant	■	■	■	■	■
All-weather Rating	IP 66 / NEMA 4X	IP 66 / NEMA 4X	IP 66 / NEMA 4X	IP 66 / NEMA 4X	IP54

Quick Selection Guide

IP Cameras

PTZ Cameras

				
	AutoDome 800 Series HD VG5-825	AutoDome 700 Series IP VG5-7xx	AutoDome Junior HD VJR-821	AutoDome Easy II IP VEZ-211
Image Sensor Type	1/3" CMOS	1/4" Progressive Scan CCD	1/2.5", progressive scan CMOS	1/4" CCD
Day/Night	■	■	■	□
IR Sensitive	■	■	■	□
Wide Dynamic Range (WDR)	□	■	■	■
Video Motion Detection	■	■	■	■
Privacy Masking	■	■	■	■
Auto Black	□	□	□	□
Intelligent Video Analysis (IVA) §	■	■	■	■
Lens	4.7 to 94 mm 20x optical zoom 10x digital zoom	3.5 to 98.0 mm / 3.1 to 122.4 mm 28x / 36x optical zoom 12x digital zoom	6.3 to 63 mm 10x optical zoom 16x digital zoom	4.2 to 42.0 mm 10x optical zoom
Minimum Illumination (day mode) [lux] §	0.8 (D/N)	0.66 (36x) 0.33 (28x)	1.2	1.0
Minimum Illumination (night mode) [lux] §	0.12 (D/N)	0.104 (36x) 0.066 (28x)	0.06	N/A
Compression / Multistreaming	H.264 Quad-streaming ***	H.264 Quad-streaming ***	H.264 Quad-streaming ***	H.264 Tri-streaming *
Images Per Second Color (max.)	60 @ 720p 30 @ 1080p	30 @ 4CIF	60 @ 720p 30 @ 1080p	30 @ 4CIF
Maximum Resolution	1920 x 1080 (HD 1080p)	704 x 480 (4CIF)	1920 x 1080 (HD 1080p)	704 x 480 (4CIF)
Alarm Input / Output	2/1	2/1	2/1	2/1
Audio / Audio Alarm	■	■	■	□
Power Over Ethernet (PoE)	□	□	■	■ (indoor)
Power Consumption	55W	19W (indoor) 55W (outdoor)	17W	12W (indoor) 27W Max (Outdoor)
Operating Temperature §	-40° to 122° F -40° to 50° C	14° to 104° F -10° to 40° C (indoor) -40° to 122° F -40° to 50° C (outdoor)	14° to 104° F -10° to 40° C	14° to 104° F -10° to 40° C (indoor) -22° to 122° F -30° to 50° C (outdoor)
Vandal Resistant	■	■	■	■ (indoor version)
All-weather Rating	IP66	IP66 / NEMA 4X (pendant housing)	IP54	4X IP65 / NEMA 4X (outdoor)

Quick Selection Guide

IP Cameras

Extreme Environment & Specialty



	Vandal Resistant EX36-IP	Dinion IP Infrared Imager NEI-30	Thermal IP Camera VOT-320	Dinion capture 5000 IP NER-L2
Camera Options	Color or High-Performance Day/Night	Dinion 2X Day/Night	Thermal	License Plate Capture
Image Sensor Type	1/3" CCD	1/3" CCD	Vanadium Oxide (VOx) focal plane array	1/3" CCD
Day/Night	Optional	■	□	■
IR Sensitive	Optional	■	■	■
Wide Dynamic Range (WDR)	□	■	□	■
Pan/Tilt/Zoom (PTZ)	□	□	□	□
Intelligent Video Analysis (IVA) §	■	■	■	□
Video Motion Detection	■	■	■	■
Auto Black	□	■	□	■
Lens	2.5 mm, 3.6 mm	5 to 50 mm Auto-iris	9 mm, 13 mm, 19 mm, 60 mm	5 to 50 mm varifocal
Minimum Illumination (day & night) [lux] §	2.7 F1.4 (Color)	0.047 (Color)	0	0
Wavelength	850 nm or 940 nm	850 nm or 940 nm	—	850 nm
Night Vision Maximum Range	30 ft. (9 m) @ 850 nm	525 ft (160 m) @ 850 nm	12,795 ft (3.9 km)	12.5 to 92 ft (3.8 to 28 m)
Compression / Multistreaming	(2) H.264 (1) JPEG	(2) H.264 (1) JPEG	(2) H.264 (1) JPEG	(2) H.264 (1) I-frame (1) M-JPEG
Images Per Second Color (max.)	30 @ 4CIF (MPEG-4) 15 @ 2CIF (H.264)	30 @ 4CIF (MPEG-4) 15 @ 2CIF (H.264)	8.33 / 30	30 @ 4CIF
Maximum Resolution	704 x 480 (4CIF)	704 x 480 (4CIF)	320 x 240	704 x 480 (4CIF)
Alarm Input / Output	□	□	■	□
Audio / Audio Alarm	□	□	□	□
Power Over Ethernet (PoE)	□	■	□	■
Power Consumption	11W Max. (with IR)	35W	3.1 A	22W (13W PoE+)
Operating Temperature §	-58° to 122° F (-50° to 50° C)	-40° to 122° F (-40° to 50° C)	-58° to 131° F (-50° to 55° C)	-40° to 122° F (-40° to 50° C) **
Vandal Resistant	■	□	■	□
All-weather Rating	N/A	IP67 / NEMA 4X	IP 66 / NEMA 4	IP 67, NEMA 4X

** -20° to 50° C (-4° to 122° F) with PoE+

	CNGE2FE24MS	CNGE2FE24MSPOE	CWGE24MODMS	CWGE2FE24MODMS	CNGE3FE7MS2
10/100Mbps Copper Ports	24	24	NA	Configurable up to 24	7
1000Mbps Copper Ports	2 – Shared w/ ports 25 & 26	2 – Shared w/ ports 25 & 26	Configurable up to 24	2 – Shared w/ ports 25 & 26	3 – Shared w/ ports 7, 9 & 10
SFP Module Ports	2 – Shared w/ ports 25 & 26 SFPs: 1000FX Only	2 – Shared w/ ports 25 & 26 SFPs: 1000FX Only	Configurable up to 24; SFPs: 1000FX only	Configurable up to 26; SFPs: 100FX ports 1-24; 1000FX ports 25 & 26	3 – shared w/ ports 7,9 & 10 SFPs: 100FX or 1000FX
Switch Architecture	Store-and-Forward	Store-and-Forward	Store-and-Forward	Store-and-Forward	Store-and-Forward
Switch Fabric	8.8Gbps/non-blocking	8.8Gbps/non-blocking	48Gbps/non-blocking	8.8Gbps/non-blocking	7.4Gbps/non-blocking
Switch Throughput	13.1Mpps@64Bytes	13.1Mpps@64Bytes	71.4Mpps@64Bytes	13Mpps@64Bytes	11Mpps@64Bytes
Address Table	8K MAC Address Table	8K MAC Address Table	16K MAC Address Table	8K MAC Address Table	8K MAC Address Table
Share Data Buffer	4Mbits Packet Buffer	4Mbits Packet Buffer	6Mbits Packet Buffer	4Mbits Packet Buffer	1Mbit Packet Buffer
Jumbo Frame Support	Supported	Supported	Supported	Supported	Not Supported
Flow Control	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Pause Frame for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex
LED	Per Unit: Power (Green) Power 2 (Green) Fault (Red) 24 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow) 2 SFP: Link/ACT (Green), Full-Duplex/Collision (Yellow)	Per Unit: Power (Green) Power 2 (Green) Fault (Red) 24 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow) 2 SFP: Link/ACT (Green) PoE: PoE in use (Green)	Per Unit: Power (Green) 24 port 10/100/1000: Link Activity (Green), Full-Duplex/Collision (Yellow) SFP: Link/ACT (Green)	Per Unit: Power (Green) 24 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow) SFP: Link/ACT (Green)	Per Unit: Power (Green) Ring Master (Green) Power 2 (Green) Fault (Red) 7 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow) 3 SFP: Link/ACT (Green)
EST Protection	6KVDC	6KVDC	6KVDC	6KVDC	6KVDC
EFT Protection	4KVDC	4KVDC	3KVDC	3KVDC	3KVDC
Console Interface	One RS-232 female connector for switch management	One RS-232 female connector for switch management	One RS-232 female connector for switch management	One RS-232 female connector for switch management	One RJ-45 to RS-232 male connector for switch management
PoE Standard	NA	IEEE802.3af PoE	NA	NA	NA
Power for Units	NA	24	NA	NA	NA
PoE Power Output	NA	48VDC Max 15.4W, 350mA	NA	NA	NA
Power Pin Assignment	NA	Positive (VCC+): RJ45 pin 1, 2 ; Negative (VCC-): RJ45 pin 3, 6	NA	NA	NA

CNGE8FX4TX4MS	CNGE2FE8MSPOE	CWFE8TX8MS	CWGE2FE8MSPOE	CWGE9MS
NA	8	8	8	NA
4	2 – Shared w/ ports 9 & 10	NA	2 – Shared w/ ports 9 & 10	9 – 2 Shared w/ ports 8 & 9
4 – SFPs: 100FX or 1000FX	2 – Shared w/ ports 9 & 10 SFPs: 100FX or 1000FX	NA	2 – Shared w/ ports 9 & 10 SFPs: 100FX or 1000FX	2 – Shared w/ ports 8 & 9 SFPs: 100FX or 1000FX
Store-and-Forward	Store-and-Forward	Store-and-Forward	Store-and-Forward	Store-and-Forward
16Gbps/non-blocking	5.6Gbps/non-blocking	1.6Gbps/non-blocking	5.6Gbps/non-blocking	18Gbps/non-blocking
23.8Mpps@64Bytes	8.3Mpps@64Bytes	2.4Mpps@64Bytes	8.3Mpps@64Bytes	26.7Mpps@64Bytes
8K MAC Address Table	8K MAC Address Table	8K MAC Address Table	8K MAC Address Table	8K MAC Address Table
1Mbit Packet Buffer	1Mbit Packet Buffer	2Mbit Packet Buffer	1Mbit Packet Buffer	1Mbit Packet Buffer
Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex	Back pressure for Half-Duplex IEEE802.3x Flow Control for Full-Duplex
Per Unit: Power (Green) Ring Master (Green) Power 2 (Green) Fault (Red) 4 port 10/100/1000: Link Activity (Green), Full-Duplex/ Collision (Yellow) 4 SFP: Link/ACT (Green)	Per Unit: Power (Green) Ring Master (Green) Power 2 (Green) Fault (Red) 8 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow) 2 SFP: Link/ACT (Green) PoE: PoE in use (Green)	Per Unit: Power (Green) 8 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow), 10/100Mb Speed (Green)	Per Unit: Power (Green) 8 port 10/100: Link Activity (Green), Full-Duplex/Collision (Yellow) 100Mb Speed (Green) 2 SFP: Link/ACT (Green) PoE: PoE In Use (Green)	Per Unit: Power (Green) 9 port 10/100/1000: Link Activity (Green) 1000Mb Speed (Green) 2 SFP: Link/ACT (Green)
6KVDC	6KVDC	6KVDC	6KVDC	6KVDC
3KVDC	3KVDC	3KVDC	3KVDC	3KVDC
One RJ-45 to RS-232 male connector for switch management	One RJ-45 to RS-232 male connector for switch management	One RS-232 female connector for switch management	One RS-232 female connector for switch management	One RS-232 female connector for switch management
NA	IEEE802.3af PoE	NA	IEEE802.3af PoE	NA
NA	8	NA	8 max. total PoE budget 77W	NA
NA	48VDC Max 15.4W, 350mA	NA	48VDC Max 15.4W, 350mA	NA
NA	Positive (VCC+): RJ45 pin 1, 2 ; Negative (VCC-): RJ45 pin 3, 6	NA	Positive (VCC+): RJ45 pin 1, 2; Negative (VCC-): RJ45 pin 3, 6	NA

	CNGE2FE24MS	CNGE2FE24MSPOE	CWGE24MODMS	CWGE2FE24MODMS	CNGE3FE7MS2
Management Interface	SNMP v1, v2c, v3/ Web/ Telnet/CLI	SNMP v1, v2c, v3/ Web/ Telnet/CLI	SNMP v1, v2c/ Web/ Telnet/CLI	SNMP v1, v2c, v3/ Web/ Telnet/CLI	SNMP v1, v2c, v3/ Web/ Telnet/CLI
Port Configuration	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.
Port Status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status
Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree
ComNet X-Ring	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 20ms	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 20ms	NA	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 300ms	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 20ms
Link Aggregation	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 13 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 13 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 7 groups of 8-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 13 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 4 groups of 4-Port trunk
QoS	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority	Support IEEE 802.1p Class of Service; Per port provides 8 priority queues; Port Base, Tag Base and Type of Service Priority	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority
IGMP Snooping	IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query
Bandwidth Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control
Port Mirror	TX only, RX only, Both	TX only, RX only, Both	TX only, RX only, Both	TX only, RX only, Both	TX only, RX only, Both
Security	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS
SNMP MIBs	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB

CNGE8FX4TX4MS	CNGE2FE8MSPOE	CWFE8TX8MS	CWGE2FE8MSPOE	CWGE9MS
SNMP v1, v2c, v3/ Web/ Telnet/CLI	SNMP v1, v2c, v3/ Web/ Telnet/CLI	SNMP v1/ Web/Telnet/CLI	SNMP v1, v2c, v3/ Web/ Telnet/CLI	SNMP v1, v2c, v3/ Web/ Telnet/CLI
Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.	Port disable/enable. Auto negotiation 10/100Mbps full- and half-duplex mode selection, Flow control disable/enable. Bandwidth control on each port.
Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status	Display each port's speed duplex mode, link status and auto negotiation status
IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree	IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree
X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 20ms	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 20ms	NA	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 300ms	X-Ring, Dual Homing, Couple Ring Dual Ring Topology - Provide redundant backup feature and the recovery time below 300ms
Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 4 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 4 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 4 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 4 groups of 4-Port trunk	Static Port Trunk, IEE 802.3ad LACP (Link Aggregation Control Protocol) Supports 4 groups of 4-Port trunk
Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority	Global systems support 8 levels of priority	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority	Support IEEE 802.1p Class of Service; Per port provides 4 priority queues; Port Base, Tag Base and Type of Service Priority
IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query	IGMP snooping v1, v2; 256 multicast groups and IGMP query
Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	NA	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control	Ingress Packet Filter and Egress Rate Limit Broadcast/Multicast Packet Filter Control
TX only, RX only, Both	TX only, RX only, Both	TX only, RX only, Both	TX only, RX only, Both	TX only, RX only, Both
Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS	Port Security via MAC address entries or filter; IP address security management; Login Security IEEE802.1X/ RADIUS
RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, Private MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, LLDP MIB	RFC 1215 Trap, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643, RFC 1757, RSTP MIB, LLDP MIB

Standards Compliance

	CNGE2FE24MS	CNGE2FE24MSPOE	CWGE24MODMS	CWGE2FE24MODMS	CNGE3FE7MS2
Regulation Compliance	FCC Part 15 Class A, UL, FCC, CE, IEC and NEMA TS1/TS2	FCC Part 15 Class A, UL, FCC, CE, IEC and NEMA TS1/TS2	FCC Part 15 Class A, UL, FCC and CE	FCC Part 15 Class A, UL, FCC and CE	FCC Part 15 Class A, UL, FCC, CE, IEC and NEMA TS1/TS2
Standards Compliance	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.3af Power over Ethernet • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP

Environmental

	CNGE2FE24MS	CNGE2FE24MSPOE	CWGE24MODMS	CWGE2FE24MODMS	CNGE3FE7MS2
Operating	-40°C – +75°C	-40°C – +75°C	0°C – +50°C	0°C – +50°C	-40°C – +75°C
Storage	-40°C – +85°C	-40°C – +85°C	-40°C – +85°C	-40°C – +85°C	-40°C – +85°C

Electrical

	CNGE2FE24MS	CNGE2FE24MSPOE	CWGE24MODMS	CWGE2FE24MODMS	CNGE3FE7MS2
External Power Supply	24VDC Plug in Power Supply, 90-264VAC, 50/60Hz (Included)	PS48VDC-10A Recommended Power Supply	AC 100V~240V 50/60Hz	AC 100V~240V 50/60Hz	24VDC Plug in Power Supply, 90-264VAC, 50/60Hz (Included)
Redundant Power	DC (12V~48V)	DC (45V ~ 52V)	DC (12V~48V) Optional Factory Order	DC (24V~48V) Optional Factory Order	DC (12V~48V)

CNGE8FX4TX4MS	CNGE2FE8MSPOE	CWFE8TX8MS	CWGE2FE8MSPOE	CWGE9MS
FCC Part 15 Class A, UL, FCC, CE, IEC and NEMA TS1/TS2	FCC Part 15 Class A, UL, FCC and CE	FCC Part 15 Class A, UL, FCC and CE	FCC Part 15 Class A, UL, FCC and CE	FCC Part 15 Class A, UL, FCC and CE
<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.3af Power over Ethernet • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP 	<ul style="list-style-type: none"> • IEEE802.3 10Base-T Ethernet • IEEE802.3u 100Base-TX/100Base-FX • IEEE802.3z Gigabit fiber • IEEE802.3ab 1000Base-T • IEEE802.3x Flow Control and Back Pressure • IEEE802.3ad Port trunk with LACP • IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree • IEEE802.1p Class of Service • IEEE802.1q VLAN Tag • IEEE802.1x User Authentication (Radius) • IEEE802.1ab LLDP

CNGE8FX4TX4MS	CNGE2FE8MSPOE	CWFE8TX8MS	CWGE2FE8MSPOE	CWGE9MS
-40°C – +75°C	-40°C – +75°C	0°C – +50°C	0°C – +50°C	0°C – +50°C
-40°C – +85°C	-40°C – +85°C	-40°C – +85°C	-40°C – +85°C	-40°C – +85°C

CNGE8FX4TX4MS	CNGE2FE8MSPOE	CWFE8TX8MS	CWGE2FE8MSPOE	CWGE9MS
24VDC Plug in Power Supply, 90-264VAC, 50/60Hz (Included)	PS48VDC-5ADIN Recommended Power Supply	AC 100V~240V 50/60Hz	48VDC 81W Plug-in Power Supply 90~264VAC 50/60 Hz (Included)	AC 100V~240V 50/60Hz
DC (12V~48V)	DC (45V ~ 52V)	NA	NA	NA

Quick Selection Guide

Moving Cameras

		AutoDome Series PTZ						AutoDome Series Fixed	
									
		VG5-836	VG5-7xx	VG5-6xx	VJR-811	VEZ-211	VJR-F801	VG5-1xx	
Imaging	Image Sensor Type	1/3" CMOS	1/4" Progressive Scan CCD	1/4" Progressive Scan CCD	1/2.5" Progressive Scan CMOS	1/4" CCD	1/2.5" Progressive Scan CMOS	1/3" Interline CCD	
	Day/Night	■	■	■	■	□	■	■	■
	IR Sensitive	■	■	■	■	□	■	■	■
	Maximum Resolution	HD 1080p (1920 x 1080)	4CIF (704 x 480)	550 TVL	HD 1080p (1920 x 1080)	4CIF (704 x 480)	HD 1080p (1920 x 1080)	540 TVL	
	Video Motion Detection intelligent video Analysis (IVA)	■	■	■	■	■	■	■	■
	Privacy Masking	■	■	■	■	■	■	■	■
	Auto Black	□	□	□	□	□	□	□	■
Sensitivity §	Zoom	20x optical 12x digital	28x / 36x optical 12x digital	28x / 36x optical 12x digital	10x optical 16x digital	10x optical	10x optical 16x digital	–	
	Lens	4.7 – 94 mm	3.5 – 98.0 mm (18x) 3.4 – 122.4 mm (36x)	3.5 – 98.0 mm (18x) 3.4 – 122.4 mm (36x)	6.3 – 63 mm	4.2 – 42.0 mm	6.3 – 63 mm	2.7 – 13.5 mm 5 – 50 mm	
	Min. Illumination (day mode)	0.8 lux (D/N)	0.66 lux (36x) 0.33 lux (28x)	0.66 lux (36x) 0.33 lux (28x)	1.2 lux	1.0 lux	1.1 lux	0.29 lux (D/N)	
	Min. Illumination (night mode)	0.12 lux (D/N)	0.104 lux (36x) 0.066 lux (28x)	0.104 lux (36x) 0.066 lux (28x)	0.06 lux	n/a	0.06 lux	0.12 lux (D/N)	
Streaming	Compression	H.264	H.264	n/a	H.264	H.264	H.264	n/a	
	Images Per Second Color (max.)	Quad-streaming ** 60 @ 720p 30 @ 1080p	Quad-streaming ** 30 @ 4CIF	n/a	Quad-streaming ** 60 @ 720p 30 @ 1080p	Tri-streaming * 30 @ 4CIF	Quad-streaming ** 60 @ 720p 30 @ 1080p		
Input / Output	Alarm Input / Output	2/1	2/1	7/4	2/1	2/1	2/1	n/a	
	Audio / Audio Alarm Power Over Ethernet (PoE)	■	■	Audio In	■	□	■	□	
Power	Max. Power Consumption	19W (indoor) 55W (outdoor)	19W (indoor) 55W (outdoor)	15W (indoor) 51W (outdoor) ***	17W	12W (indoor) 27W (outdoor)	14W	7.5W (indoor) 43.5W (outdoor) ***	
	Indoor (In-ceiling)	14° to 122° F (–10° to 50° C)	14° to 104° F (–10° to 40° C)	14° to 104° F (–10° to 40° C)	14° to 104° F (–10° to 40° C)	14° to 104° F (–10° to 40° C)	14° to 104° F (–10° to 40° C)	14° to 122° F (–10° to 50° C)	
Operating Temperature §	Outdoor	–49° to 131° F (–45° to 55° C)	–40° to 122° F (–40° to 50° C)	–40° to 122° F (–40° to 50° C)	n/a	–22° to 122° F (–30° to 50° C)	n/a	–40° to 122° F (–40° to 50° C)	
	Vandal Resistant	■	■	■	■	■ (indoor)	■	■	
Environmental	All-weather Rating	IP66 / NEMA rated (pendant)	IP66 / NEMA rated**** (pendant)	IP66 / NEMA rated**** (pendant)	IP54	IP65 (outdoor)	IP54	IP66 / NEMA rated**** (pendant)	

§ Refer to datasheet for individual camera details

* Two (2) H.264 streams with one (1) M-JPEG stream

** Three (3) H.264 streams with one (1) M-JPEG stream. During full bandwidth operation (1080p30) or high frame rate (720p60) the second stream is an exact copy of the first. In reduced bandwidth mode (720p30) the second is an independently configurable, downscaled-resolution stream. In both modes the third H.264 stream consists of HD I-frames only.








*** Add 16 W if using heater module

**** Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

Quick Selection Guide

Moving Cameras



		Stainless Steel	Aluminum		Thermal	Explosion-Protected	High Speed	Long Range
Imaging								
		MIC Series 400		MIC Series 550		MIC Series 440	HSPS Series	GVS Series
	Image Sensor Type	MIC400ST	MIC-550AL	MIC-550IR	MIC-612TI/TF	MIC440AX	UPH-Cxx	GVS1000
	Day/Night	1/4" CCD	1/4" CCD	1/4" CCD	1/4" CCD	14" CCD	1/3" / 1/2" CCD	1/2" CCD
	IR Sensitive	■	■	■	■	■	■	■
	Maximum Resolution	470 TVL (18x) 530 TVL (36x)	550 TVL	550 TVL	550 TVL (Optical) 320 / 640 TVL (Thermal)	470 TVL	540 TVL	540 TVL
	Video Motion Detection	□	■	■	■	□	■	□
Sensitivity §	Intelligent video Analysis (IVA)	□	□	□	□	□	□	□
	Privacy Masking	□	■	■	■	□	□	□
	Auto Black	□	□	□	□	□	■	□
	Zoom	18x / 36x optical 12x digital	28x / 36x optical 12x digital	28x / 36x optical 12x digital	36x optical 12x digital	18x / 36x	10x / 15x / 18x	60x
	Lens	4.1 – 73.8 mm (18x) 3.4 – 122.4 mm (36x)	3.5 – 98.0 mm (18x) 3.4 – 122.4 mm (36x)	3.5 – 98.0 mm (18x) 3.4 – 122.4 mm (36x)	3.4 – 122.4 mm (36x) 35 / 50 mm (Thermal)	4.1 – 73.8 mm (18x) 3.4 – 122.4 mm (36x)	8 – 120 mm 8.5 – 85 mm 8.6 – 154 mm	12.5 – 750 mm 25 – 1500 mm
	Min. Illumination (day mode)	0.7 lux (18x) 1.4 lux (36x)	1.4 lux	1.4 lux	1.4 lux (36x)	0.7 lux (18x) 1.4 lux (36x)	0.31 lux	0.31 lux
	Min. Illumination (night mode)	0.01 lux (18x) 0.01 lux (36x)	0.01 lux	0 lux	0.01 lux (36x)	0.01 lux (18x) 0.1 lux (36x)	0 lux	0 lux
Infrared	Integrated IR	□	□	■	■	□	■	■
	Wavelength	n/a	n/a	850 nm	7.5 / 30 Hz (NTSC) ** 8.3 / 25 Hz (PAL)	n/a	850 nm	730 / 850 nm
Power	Max. Night Vision Range	n/a	n/a	300 ft (91 m)	Detection: 2.4 miles (3.9 km)	n/a	876 ft (267m) *	Classification: 3900 ft (1200 m)
	3D Diffuser	n/a	n/a	n/a	n/a	n/a	■	■
Mechanical	Input Voltage	18 VAC	18 VAC	18 VAC	18 VAC	18 VAC	24 VAC	120 / 230 VAC
	Max. Power Consumption	37 W	36 W	43 W	54 W (with heater)	25 W	8 A	800 W (full IR)
Environmental	Construction	Grade 316L Stainless Steel	Cast Solid Aluminum	Cast Solid Aluminum	Machined Aluminum	Machined, Alodined, Powder-coated Aluminum	Aluminum with acrylic front fascia	Aluminum with stainless steel fastenings
	Pan-Tilt Range	360° continuous pan 270° tilt	360° continuous pan 267° tilt	360° continuous pan 186.6° tilt	360° continuous pan 180° tilt	360° continuous pan 240° tilt	360° continuous pan 130° tilt	215° pan 90° tilt
	On-site Canting Ability	□	■	■	□	□	□	□
Environmental	Operating Temperature	–40° to 122° F (–40° to 50° C)	–40° to 140° F (–40° to 60° C)	–40° to 140° F (–40° to 60° C)	–40° to 140° F (–40° to 60° C)	–4° to 140° F (–20° to 60° C)	–4° to 122° F (–20° to 50° C)	–4° to 122° F (–20° to 50° C)
	All-weather Rating	IP 68	IP68	IP68	IP68 / NEMA 6P	IP68	IP66	IP65

§ Refer to datasheet for individual camera details

* Actual Illumination distance achieved is dependent on camera and lens characteristics.

** U.S. export license required for 30 / 25 Hz . Contact Bosch for details.

For more information, contact:

America	Asia-Pacific	Europe, Middle East, Africa
www.boschsecurity.us	www.boschsecurity.asia	www.boschsecurity.com
+1-800-289-0096	+65 6571 2808	+31 (0) 40 25 77 284

Quick Selection Guide

Digital Video Recorders



			Digital Recording			Hybrid Range Solutions			Network Recording		
Target System Size			Small Range Solutions			Midsize Range Solutions			Large Range Solutions		
System	Operating System	Rack Mountable	DVR 400 Series			DVR 630/650 Series			DNR 700 HD Series		
	Embedded	Yes	1-8 Cameras	Embedded	Yes	16 to 256 Cameras	Embedded	Yes	up to 512 Cameras	Embedded	10,000+ Cameras
Video	SDK Available	Warranty	Coming Soon	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Windows 7
	Input	Channels	4, 8	8, 16	8, 16	8, 16	8, 16	3 Years	3 Years	3 Years	Up to 64
Audio	Looping Video	Composite Outs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a
	VGA	Spot Monitor	1	0	1	1	2	0	1	0	0
Alarms	Pre-Alarm	Notification via Email	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1 DWI, 1 DP (tower Model)
	Up to 30 Seconds	Up to 30 Seconds	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	0
Recording	Video Compression	Frame Rate (FPS) - NTSC	H.264	H.264	H.264	H.264	H.264	Yes	Yes	Yes	Up to 64 (audio playback via remote station only)
	IPS Per Camera - NTSC	Supported Resolutions	120/240 IPS @ CIF	480 IPS @ CIF	480 IPS @ 4CIF	30 IPS @ CIF	30 IPS @ 4CIF	960 IPS @ 4CIF	Up to 1250 IPS @ 1080p*	Up to 144 via ADAM I/O modules	Up to 64 via ADAM I/O modules
Storage	Export	Supported Devices	CIF/2CIF/4CIF	CIF/2CIF/4CIF	CIF/2CIF/4CIF	CIF/2CIF/4CIF	CIF/2CIF/4CIF	CIF/2CIF/4CIF/720p/1080p*	CIF/2CIF/4CIF/720p/1080p*	Up to 64 via ADAM I/O modules	Up to 64 via ADAM I/O modules
	On-board RAID	Back-up Mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Search	Timeline Search Bar (Color Coded)	Search Mode	USB 1.1 and USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0	Internal CD/DVD Writer, USB 2.0
	Smart Motion Search - Motion in specific area	Smart Motion Search	Native, .AVI	Native, .AVI	Native, .AVI	Native, .AVI	Native, .ASF	Native, .ASF	Native, .ASF	Native, .ASF	Native, .ASF
Display	User Levels	User Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Camera Lockouts by User	Set Viewing Permissions	Date/time, Events, Motion, Smart Motion Search	Date/time, Events, Motion, Smart Motion Search	Date/time, Events, Motion, Smart Motion Search	Date/time, Events, Motion, Smart Motion Search	Date/time, Events, Motion, Smart Motion Search	Date/time, Events, Motion, Smart Motion Search	Date/time, Camera, Events, Motion, Smart Motion, Text and IVA Forensic Search (via BVC)***	Date/time, Camera Name, Events, Pre-Alarm, Motion, Smart Motion Search	Date/time, Camera Name, Events, Pre-Alarm, Motion, Smart Motion Search
Security	Data Integrity Check (e.g. Watermarking)	Data Integrity Check	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Web Browser Access	Simultaneous Accessible Users	10/100 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet
Remote Access	PC Client	PTZ Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Mobile Client	Export Options	Native File Format	Native File Format and .AVI	Native File Format and .AVI	Native File Format and .AVI	Native File Format and .AVI	Native File Format and ASF	Native File Format and ASF	Native File Format and ASF	Native File Format and ASF
Other	Instant Playback	Digital Zoom (Live / Playback)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PTZ Joystick Control	ATM/POS Interface	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* Assumes an average bit rate of 2.4Mbps per camera ** Up to max. 72Mbps recording bandwidth *** Requires IVA-enabled IP camera/encoder

Quick Selection Guide

Video Storage Arrays



	Small Range Solutions				Network-Attached Storage (NAS)				Large Range Solutions												
	DLA 1200 Series (AIQ00)				Midsize Range Solutions				DLA 1400 Series (AIOXL1)				DLA 1400 Series (AIOXL1)				DLA 1400 Series (AIOXL1)				
	DLA 1200 Series (AIQ00)				DLA 1400 Series (AIOXL1)				DLA 1400 Series (AIOXL1)				DLA 1400 Series (AIOXL1)				DLA 1400 Series (AIOXL1)				
Target System Size																					
Mechanical	Form Factor	1 to 64 Cameras				32 to 128 Cameras				32 to 128 Cameras				32 to 128 Cameras				256 to 500 Cameras			
	System Weight	Mid-Tower 10.8 kg (23.80 lbs)				1U 19-inch Rack Mount 16.3 kg (36 lbs)				2U 19-inch Rack Mount 8 bay: 23.6 kg (52 lbs)				2U 19-inch Rack Mount 8 bay: 23.6 kg (52 lbs)				2U 19-inch Rack Mount 27.215 kg (60 lbs)			
	Operating Temperature	10° to 35° C (50° to 95° F)				10° to 35° C (50° to 95° F)				10° to 35° C (50° to 95° F)				10° to 35° C (50° to 95° F)				10° to 40° C (50° to 104° F)			
	Product Safety	CE, UL, EN, IEC				CE, UL, EN, IEC				CE, UL, EN, IEC				CE, UL, EN, IEC				EN 60950, CE, CSA 60950, UL 60950, others			
	Warranty	3 Years (all components)				3 Years (all components)				3 Years (all components)				3 Years (all components)				3 Years (all components)			
Mechanical	Number	1				2				2				2				2			
	Redundant	No				Yes				Yes				Yes				Yes			
	Hot Swappable	No				Yes				Yes				Yes				Yes			
	Power Consumption	200W				4 bay: 230W				8 bay: 291W				8 bay: 291W				357W			
	Fans	1				3				5				5				2 redundant modules			
System	Number	No				No				No				No				Yes			
	Type	Intel® Pentium G6950 Dual Core				Intel® Pentium G6950 Dual Core				Intel® Pentium G6950 Dual Core				Intel® Pentium G6950 Dual Core				Intel® Mobile Celeron			
	Speed	2.8 GHz, 1333 MHz FSB				2.8 GHz, 1333 MHz FSB				2.8 GHz, 1333 MHz FSB				2.8 GHz, 1333 MHz FSB				2.2 GHz			
	Processor Cache	3MB L2 Cache				3MB L2 Cache				3MB L2 Cache				3MB L2 Cache				1 GB			
	Memory	4GB, DDR2-800 ECC RAM				4GB, DDR2-800 ECC RAM				4GB, DDR2-800 ECC RAM				4GB, DDR2-800 ECC RAM				1GB, DDR2-800 ECC RAM			
Storage	Type	Gigabit Ethernet				Gigabit Ethernet				Gigabit Ethernet				Gigabit Ethernet				Gigabit Ethernet			
	Number	2				2				2				2				2			
	RAID Levels	JBOD / RAID-1				RAID-5				RAID-5				RAID-4 / RAID-DP				RAID-4 / RAID-DP			
	Type	SATA-II				SATA-II				SATA-II				SATA-II				SATA-II			
	Disk Drives	4				4				8				8				12			
Storage	Maximum Drives Supported	No				Yes				Yes				Yes				Yes			
	Hot Swappable	No				Yes				Yes				Yes				Yes			
	Available Capacities	1 TB				1 TB				1 TB				1 TB				1 TB			
	Expansion Links	N/A				N/A				N/A				N/A				Fibre Channel			
	Number of Expansion Units	N/A				N/A				N/A				N/A				Up to 4 Expansion Shelves			
Capacity	Maximum Drives Supported	N/A				N/A				N/A				N/A				Up to 6 Expansion Shelves			
	Hot Swappable	N/A				N/A				N/A				N/A				Yes			
	Base System (Raw)	4 TB				4 TB				8 TB				16 TB				12 TB			
	Base System (RAID Configuration)	3.6 TB (JBOD)				2.7 TB				6.4 TB				12.93 TB				6.9 TB (RAID-4) / 6.3 TB (RAID-DP)			
	Base System + Expansion (Raw Configuration)	N/A				N/A				N/A				N/A				68 TB			
Performance	Base System + Expansion (RAID Configuration)	N/A				N/A				N/A				N/A				37 TB			
	Array Throughput	150 Mbps				200 Mbps				200 Mbps				200 Mbps				250 Mbps			
	Drive Throughput	3.0 Gbps				3.0 Gbps				3.0 Gbps				3.0 Gbps				3.0 Gbps			
	Maximum Number of iSCSI Camera Connections	32				64				64				64				128			
	Maximum Number of iSCSI Replay Sessions	8				8				8				8				n/a			
Monitoring	Remote Mgmt.	Yes				Yes				Yes				Yes				No			
	Remote Desktop	Yes				Yes				Yes				Yes				Yes			
	Web Client	Yes				Yes				Yes				Yes				Yes			
	SNMP	Yes				Yes				Yes				Yes				Yes			
	Alerts	e-Mail, LAN broadcast				e-Mail, LAN broadcast				e-Mail, LAN broadcast				e-Mail, LAN broadcast				e-Mail, LAN broadcast			
Platform Support	Recorders	Divar 700 Series				Divar 700 Series				Divar 700 Series				Divar 700 Series				Divar 700 Series			
	Supported HW	Any Bosch IP device running FW v4.x or greater				Any Bosch IP device running FW v4.x or greater				Any Bosch IP device running FW v4.x or greater				Any Bosch IP device running FW v4.x or greater				Any Bosch IP device running FW v4.x or greater			
	Direct-to-iSCSI	Yes				Yes				Yes				Yes				No			
	BVC	Yes (v4.02 or newer)				Yes (v4.02 or newer)				Yes (v4.02 or newer)				Yes (v4.02 or newer)				Yes			
	Supported SW	VIDOS				VIDOS				VIDOS				VIDOS				Any Bosch IP device running FW v4.x or greater			
Platform Support	BVMS	Yes (v2.20 or newer)				Yes (v2.20 or newer)				Yes (v2.20 or newer)				Yes (v2.20 or newer)				Yes			
	VRM	Yes (v2.11 Embedded)				Yes (v2.11 Embedded)				Yes (v2.11 Embedded)				Yes (v2.11 Embedded)				Yes			

Flat Panel LCD Monitors Quick Guide



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SIZE MODEL NUMBER	HIGH PERFORMANCE				HD	
	8.4-inch UML-082-90	10.4-inch UML-102-90	17-inch UML-172-90	19-inch UML-192-90	26-inch UML-262-90	42-inch UML-422-90



	LED			LCD		
	800 x 600 500 TVL	800 x 600 500 TVL	1280 x 1024 500 TVL	1280 x 1024 500 TVL	1600 x 1200 500 TVL	1920 x 1080 600 TVL
LCD Panel	Aspect Ratio	4:3	4:3	5:4 (DVH-/VGA)	4:3 (composite)	16:9
	Brightness (cd/m2)	450	400	5:4 (DVH-/VGA)	4:3 (composite)	16:9
	Contrast Ratio	600:1	700:1	1000:1	800:1	450
	Backlight	LED*	LED*	Two (2) cold CFT*	Four (4) cold CFT*	50,000 hrs (CCFL)
	Viewing Angle (H x V)	160° x 140°	160° x 140°	160° x 160°	160° x 160°	178° x 178°
Video Input	Composite Video and Audio Loop-through	Passive Loop-through	Passive Loop-through	Passive Loop-through	Passive Loop-through	Passive Loop-through
	Composite Video Connector	Two BNC Connector (looping video)	Two BNC Connector (looping video)	Two BNC Connector (looping video)	Two BNC Connector (looping video)	Two BNC Connector (looping video)
Computer Input	Yes	Yes	Yes	Yes	Yes	Yes
Audio Input	PC-Connector	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI	VGA, DVI-D, HDMI
Mechanical	Speaker	Yes	Yes	Yes	Yes	Yes
	Dimensions (LCD with base)	8.6 W x 7.2 H x 1.3 D (inches) 219 W x 184 H x 32.5 D (mm)	10.1 W x 8.9 H x 1.3 D (inches) 256 W x 225 H x 32.5 D (mm)	15.3 W x 13.7 H x 2.9 D (inches) 390 W x 349 H x 75 D (mm)	16.9 W x 14.9 H x 3.3 D (inches) 429 W x 379 H x 80 D (mm)	24.9 W x 15.3 H x 8.3 D (inches) 632 W x 388 H x 211 D (mm)
	Weight (LCD with base)	2.56 lb (1.16 kg)	3.51 lb (1.59 kg)	12.9 lb (5.9 kg)	14.0 lb (6.4 kg)	24.91 lb (11.3 kg)
	VESA Compliant	Yes	Yes	Yes	Yes	Yes
	Cables Included	VGA-to-VGA	VGA-to-VGA	VGA-to-VGA and DVI-to-DVI	VGA-to-VGA and DVI-to-DVI	VGA-to-VGA and DVI-to-DVI
Power	Power Supply	Included	Included	Included	Included	Included
Additional Features	Power Consumption	13.5 W	13.5 W	< 45 W	< 50 W	70 W
	Picture-in-picture	No	No	Yes	Yes	Yes
	Front Panel Lockout	No	No	Yes	Yes	Yes
	IR Remote	No	No	Yes	Yes	Yes
Accessories	Rack-mountable	Yes	Yes	Yes	Yes	No
	Power Supply for Rack Mounting	N/A	N/A	N/A	N/A	N/A
	Fixed Wall Mount	Yes	Yes	Yes	Yes	Yes (ST660)
	Swivel/Tilt Wall Mount	Yes	Yes	Yes	Yes	Yes (UMM-LM-30B)

* CFT-Cathode Fluorescent Tubes, rated life 45,000-50,000 hours; LED rated life 50,000 hours



UMM-LW-20B Fixed Wall Mount



UMM-LW-30B Swivel/Tilt Wall Mount



UMM-LCDB-RM LCD Monitor Rack Mount

Quick Selection Guide

Video Over IP



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		Standard						Rugged		
Description		VIP-X1XF-E	VIP X1XF	VideoJet X20 XF E	VideoJet X40 XF E	VIP XDA	VIP-XDHD	VideoJet X10 Rugged	VideoJet X20 Rugged	VideoJet X40 Rugged
Page 35 / Video / Audio	Camera Inputs	Single Channel Premium Encoder	Single Channel Premium Encoder	2 Channel H.264 Video Encoder	4 Channel H.264 Video Encoder	Single / Quad-stream Decoder	HD Video Decoder	1 Channel Rugged Encoder	2 Channel Rugged Encoder	4 Channel Rugged Encoder
	Monitor Outputs	1	1	2	4	—	—	1	2	4
	Video Codec	H.264	H.264	H.264 MP H.264 BP	H.264 MP H.264 BP	H.264 BP MPEG-4 SH+ MPEG-2	H.264 MPEG-4	H.264 BP MPEG-4 SH+	H.264 BP MPEG-4 SH+	H.264 BP MPEG-4 SH+
	Frame Rate (FPS)	25/30 @ 4CIF	25/30 @ 4CIF	25/30	25/30	25/30 @ 4CIF	30 @ 1080p	25/30 @ 4CIF	25/30 @ 4CIF	15 @ 4CIF 30 @ 2CIF 30 @ 4CIF
	Audio In / Out	1 / 1	1 / 1	2 / 1	2 / 1	0 / 1	n/a	1 / 1	2 / 2	1 / 1
Storage	Type	SD Card	SD Card	CF	CF	n/a	n/a	CF USB	CF USB	CF USB
	Capacity	n/a	n/a	32GB	32GB	n/a	n/a	8GB CF	8GB CF	8GB CF
Intelligence	Direct-to-SCSI	Yes	Yes	Yes	Yes	n/a	n/a	Yes	Yes	Yes
	Video Analytics	Motion+	IVA	Motion+	Motion+	n/a	n/a	IVA	IVA	IVA
Interfaces	Alarm In	1	2	4	4	4	0	4	4	4
	Relay Out	1	2	1	1	4	0	4	4	4
	SFP Fiber Slot	No	No	No	No	No	No	Yes	Yes	Yes
	Power over Ethernet (PoE)	No	No	No	No	No	No	No	No	No

Quick Selection Guide

Video Over IP



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Modular Systems		
	VIP X1600-B	VIP X1600-XFB
	Base System 4	Base System 4
Description	Two 1 Gbps ports (1 front, 1 rear)	Three 1 Gbps ports (2 front, 1 rear)
Ethernet	No	Yes
SFP Fiber Slot		
	VIP X1600 XFM4A	VIP X1600 XFM4B
	4 Channel H.264 Encoder Module	4 Channel H.264 Encoder Module with Bilinx
Description	Camera Inputs	4
	Monitor Outputs	—
Video / Audio	Video Codec	H.264 MP H.265 BP+ M-JPEG
	Frame Rate (FPS)	25/30 @ 4CIF
Storage	Audio In / Out	2/1
	Type	n/a
Intelligence	Capacity	n/a
	Direct-to-SCSI	Yes
Interfaces	Video Analytics	IVA
	Alarm In	4
	Relay Out	1
	SFP Fiber Slot	Yes
	Power over Ethernet (PoE)	n/a

Access Easy Control System® Quick Guide



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Top Benefits of the AEC

- ▶ Easy installation, fast configuration, minimal training for operation
- ▶ The self-hosted browser-based controller allows for easy installation and fast system configuration
- ▶ Easy set up in just a few steps
- ▶ Intuitive, user-friendly graphical user interface
- ▶ Remote system management from any location
- ▶ Quick access to event video identification provides more secure check of access points before granting access to cardholders
- ▶ The single database contains photo image of card holder for verification
- ▶ Comfortable and flexible applications around the door, such as combined verification and surveillance
- ▶ Easy identification of tailgating or threats

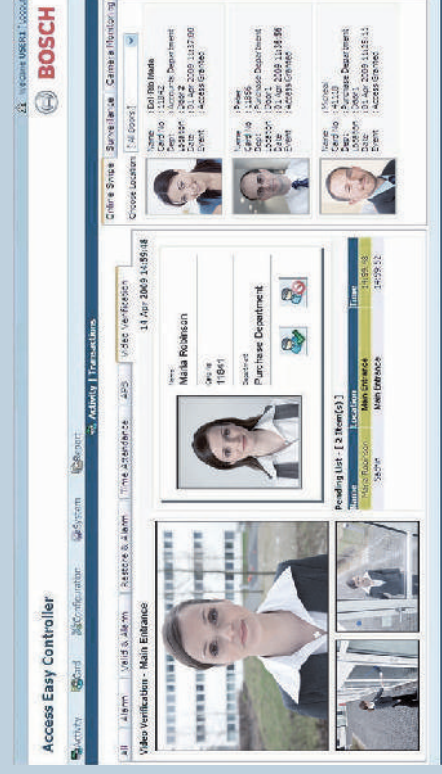


Ease of use and functionality

▶ Access Easy Control System is the ideal, web-based, easy-to-install solution for small to mid-sized applications, like:

- Shops
- Office Buildings
- Retail Stores
- Restaurants
- Small Schools
- City Halls
- Gas Stations
- Small Hotels

- ▶ Browser-based user interface for programming – no software installation required
- ▶ Video Verification Feature (3 Cameras per door)
- ▶ Supports up to 20,480 card holders and 10,000 transactions
- ▶ Classify cardholders based on 254 access groups
- ▶ 255 time schedules, 32 regular and 32 special holidays



Features

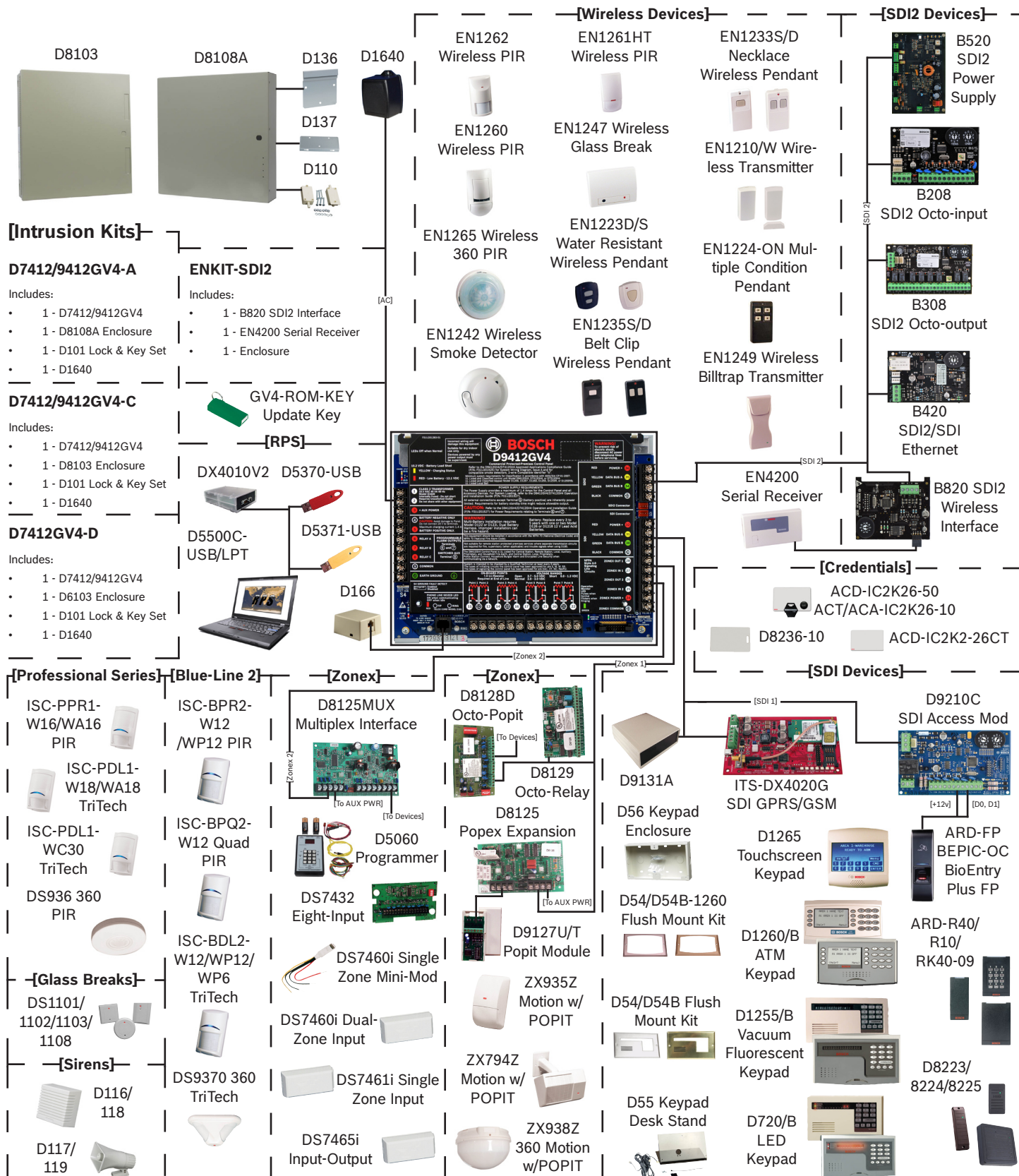
- ▶ The controller supports up to 16 readers, monitor up to 32 auxiliary supervised inputs and controls up to 32 auxiliary relay outputs
- ▶ Graphical user interface:
 - Interactive embedded help screen
 - Intuitive icons
 - Descriptive, easy-to-understand information
 - Well organized web menu and programming for fast setup
- ▶ Video Integration
 - Live images of high-security areas possible
 - Video verification mode with up to 3 cameras per door for designated areas
 - Event log with access to related CCTV archive images can be accessed with the click of a button
- ▶ Intrusion Monitoring
 - Integration of intrusion panels via predefined advanced I/O for system arming and disarming with access control credential
- ▶ Remote Access
 - Internet or intranet
 - Network TCP/IP connection via LAN, VPN, WAN or dial-up modem
- ▶ Report Generation
 - Muster list by zone or area
 - Sorting by visitor, employee or department
 - Easy exporting of reports to MS Excel
- ▶ Alarm Notification
 - E-mail notification via SMTP
 - Text messaging via serial COM port using an GSM modem
- ▶ Multiple Access Modes
 - User-definable PIN codes
 - Multiple-function access credentials
 - Time Schedules
- ▶ Advanced I/O Programming
 - Integration of external devices and equipment via supervised inputs and relay outputs
 - Advanced programming option based on OR, AND, XOR, NAND logic among others to customize the system to meet individual needs and preferences

G Series Compatibility Guide

D9412GV4, D7412GV4 & D7212GV4 Commercial Intrusion



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D9412GV4 and D7412GV4 Commercial Fire



Quick Selection Guide

Wall mount detectors



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Blue Line Gen 2 Series										Professional Series			
Type	ISC-BPR2-W12	ISC-BPR2-WP12	ISC-BPQ2-W12	ISC-BDL2-WP6	ISC-BDL2-W12	ISC-BDL2-WP12	ISC-PPR1-W16	ISC-PDL1-W18	ISC-PPR1-WA16	ISC-PDL1-WA18	ISC-PDL1-WC30		
Anti-Mask	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes	No
Certification	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
Pet/Small Animal Immunity	No	On / Off Selectable 45 lb (20 kg)	No	On / Off Selectable 100 lb (45 kg)	No	On / Off Selectable 100 lb (45 kg)	Yes 10 lb (4.5 kg)	Yes 10 lb (4.5 kg)	Yes 10 lb (4.5 kg)	Yes 10 lb (4.5 kg)	Yes 10 lb (4.5 kg)	Yes 10 lb (4.5 kg)	No
Coverage / Range	40 x 40 ft (12 x 12 m)	40 x 40 ft (12 x 12 m)	40 x 40 ft (12 x 12 m)	20 x 20 ft 6 x 6 m	40 x 40 ft (12 x 12 m)	40 x 40 ft (12 x 12 m)	50 x 70 ft (16 x 21 m)	60 x 80 ft (18 x 25 m)	50 x 70 ft (16 x 21 m)	60 x 80 ft (18 x 25 m)	100 x 10 ft (30 x 3 m)		
False Alarm Immunity	●●○○	●●●○	●●○○	●●●●	●●○○	●●●●	●●○○	●●●○	●○○○	●●○○	●●●○	●●●○	
Catch Performance	●●○○	●●○○	●●●○	●●○○	●●○○	●●○○	●●○○	●●○○	●●●●	●●●●	●●●○	●●●○	
Mounting Height	7 – 9 ft (2.2 – 2.75 m)	7 – 9 ft (2.2 – 2.75 m)	7 – 9 ft (2.2 – 2.75 m)	7 – 9 ft (2.2 – 2.75 m)	7 – 9 ft (2.2 – 2.75 m)	7 – 9 ft (2.2 – 2.75 m)	7 – 10 ft (2.1 – 3.0 m)	7 – 10 ft (2.1 – 3.0 m)	7 – 10 ft (2.1 – 3.0 m)	7 – 10 ft (2.1 – 3.0 m)	7 – 10 ft (2.1 – 3.0 m)		
Lookdown Zone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Environment §	Standard	Standard	Difficult	Difficult	Difficult	Difficult	Standard	Difficult	Standard	Difficult	Difficult		
Application	Small to Medium risk	Small to Medium risk	Medium risk	Small to Medium risk	Small to Medium risk	Small to Medium risk	Medium to High risk	Medium to High risk	High risk	High risk	Narrow and long areas		

§ Difficult environments include potential false alarm sources, such as rooms with:

- Air conditioning vents
- Strong drafts of cold or warm air
- Slow moving objects such as curtains, plants, or signs hanging from the ceiling
- A fan that could be running when the system is activated
- Underfloor heating
- Room temperatures exceed 86° F (30° C)

Or where the detector could be exposed to bright white light (car headlights, floodlights, direct sunlight etc.)

Quick Selection Guide

Ceiling mount and Request-to-exit detectors



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Ceiling mount detectors





Type	DS936	DS938Z	DS9360	DS939	DS9370
Certification	PIR UL,CE	PIR UL,CE	TriTech (PIR+MW) UL,CE	PIR UL,CE	TriTech (PIR+MW) UL,CE
Pet / Small Animal Immunity	No	No	No	No	No
Coverage / Range	24 ft (7.5 m) 360°	60 ft (18 m) 360°	60 ft (18 m) 360°	70 ft (21 m) 360°	70 ft (21 m) 360°
False Alarm Immunity	●●○○	●●○○	●●●○	●●●○	●●●●
Catch Performance	●●○○	●●●○	●●●○	●●●○	●●●○
Mounting Height	7 – 12 ft (2.0 – 3.6 m)	8 – 18 ft (2.5 – 6.0 m)	8 – 18 ft (2.5 – 6.0 m)	8 – 25 ft (2.4 – 7.6 m)	8 – 25 ft (2.4 – 7.6 m)
Environment §	Standard	Standard	Difficult	Standard	Difficult
Application	Small to medium risk	Small to medium risk	Small to medium risk	Medium risk	Medium risk

For special room conditions we can recommend one of our ceiling mount detectors. Special rooms include:

- Large halls where detectors cannot be mounted on a wall.
- Large offices with cubicles where wall mount detectors are not possible
- Small convenience stores with small shelves, where field of view is better vertical than horizontal.

We do not recommend ceiling mount detectors where objects are hanging from a ceiling blocking line-of-sight, or where the ceiling is vibrating as with ceiling-mount HVAC units.

Request-to-exit detectors	
 	
Type	DS150i Series
Certification	PIR UL, CE
Coverage / Range	8 x 10 ft (2.4 x 3.0 m)
Maximum Mounting Height	13 ft (4 m)
Door Monitor w/ Sounder	○
Cover Tamper	○
LED Enable/Disable	○
Keycard Reader Input	○
Sequential Logic Input	○
Relay Fall Safe / Fall Secure	●
Relay Settable Select	●
Relay Latch Time Adjustment	0.25 – 60 sec
Adjustable Optics	Vertical Adjustment
Pattern Masking	●
Trim Plate	●
Sounder Cover	○
Operating voltage	12 or 24 (VDC or VAC)
Max. current Draw	35 mA
Operating Temperature	-22° to +120° F (-30° to +50° C)

Glass Break

DS1101i



DS1108i



DS1102i



DS1103i



DS1109i



Coverage	7.6m maximum				3m
Description	Round	Round	Square	Flush Mount	Combo Magnetic Contact
Alarm Output	NC/NO	NC	NC/NO	NC	NC
Operating Temperature †	-29° to +49° C (-20° to +120°F)				
Cover Tamper	•	•	•	—	—
Wall Tamper	•	•	•	—	•
LED Indicator	•	•	•	—	—
Regulatory Approvals	UL, ULC	UL, ULC	UL, ULC	UL, ULC	UL, ULC
Operating Voltage	6 to 15 VDC	9 to 15 VDC	6 to 15 VDC	9 to 15 VDC	6 to 15 VDC
Maximum Current Draw – mA	24	24	24	26	29
Additional Features					
Options	Auto Sound Tester	Auto Sound Tester	Auto Sound Tester	Auto Sound Tester	Auto Sound Tester

ISN-SM-50



ISN-SM-80



Seismic

Coverage	50m²	80m²
Description	Steel, Concrete	Steel, Concrete, LWS
Alarm Output	NC Solid State Relays	NC Solid State Relays
Operating Temperature †	-40° to +70° C (-40° to +158°F)	-40° to +70° C (-40° to +158°F)
Sensitivity Level Adjustment	•	•
Cover Tamper	•	•
Wall Tamper	•	•
Voltage Monitoring	•	•
Regulatory Approvals	CE, VDS, UL, IMQ, Skafor, Nfa2P, ANPI	CE, UL, IMQ, Nfa2P, ANPI
Operating Voltage	8 to 16 VDC	8 to 16 VDC
Maximum Current Draw – mA	6	6
Additional Features	Thermal Mechanical, Explosive, Water Attack Detection Mounting and Function Test	Thermal Mechanical, Explosive, Water Attack Detection Mounting and Function Test Local Event Memory
Options	Anti-Drill Foil (ISN-GMX-D7) Fixing Device (ISN-GMA-S6) Floor Box (ISN-GMX-B0) Mounting Plate (ISN-GMX-P0) Swivel Plate (ISN-GMX-P3S) Test Transmitter (ISN-GMX-S1) Wall Recess Set (ISN-GMX-W0) Watertight Housing (ISN-GMXW-G0) 2mm Spacer (ISN-GMX-P3S2) 4mm Spacer (ISN-GMX-P3S4) SensTool PC Software (ISN-SMS-W7)	Anti-Drill Foil (ISN-GMX-D7) Fixing Device (ISN-GMA-S6) Floor Box (ISN-GMX-B0) Mounting Plate (ISN-GMX-P0) Swivel Plate (ISN-GMX-PZ) Test Transmitter (ISN-GMX-S1) Wall Recess Set (ISN-GMX-W0) Watertight Housing (ISN-GMXW-G0) 2mm Spacer (ISN-GMX-P3S2) 4mm Spacer (ISN-GMX-P3S4) SensTool PC Software (ISN-SMS-W7)





Pendant Transmitters
Pendant Transmitters provide single- and two button activation. Single button designs are ideal for assisted living installations whereas the two button design reduces accidental activation. One light emitting diode (LED) flashes with all transmissions, including supervision, to clearly show users when the unit is operating. Pendants include a belt clip and a battery. They can also be mounted for fixed position signaling, adapting to a wide range of installations.



Universal Transmitters
The Universal Transmitters can make nearly any normally open (NO) or normally closed (NC) sensor a wireless device. The Universal Transmitters work with shock sensors, holdup buttons, pressure mats, temperature sensors, status relays, other devices. They are fully supervised and include screw closure housings, cover tamper, and wall tamper.



Motion Detectors
Provide a range of motion detectors suitable for any application, including residential and commercial, with wall mount, ceiling mount, pet friendly, and high traffic models.



Specialty Transmitters
Provide capability to support special applications including smoke and glass break detection, as well as high security applications such as retail or banking.



Site Survey Kit
The Site Survey Kit is a portable tool that installers can use to conduct a quick and accurate site survey. Installers can easily determine the optimum location for transmitters and repeaters.

Pendant Transmitters	
EN1223D	Double-button water-resistant pendant transmitter
EN1223S	Single-button water-resistant pendant transmitter
EN1233D	Double-button pendant transmitter
EN1233S	Single-button pendant transmitter
EN1235D	Double-button belt clip pendant transmitter
EN1235DF	Double-button fixed position hold up transmitter
EN1235S	Single-button belt clip pendant transmitter
EN1235SF	Single-button fixed position hold up transmitter
EN1224-ON	NEW, On/Off keyfob for G-Series

Universal Transmitters	
EN1210	Single input universal transmitter
EN1210EOL	Single input universal transmitter, EOL protection
EN1210W	Door/window transmitter with reed switch
EN1215EOL	Universal transmitter with wall tamper
EN1215WEOL	Door/window transmitter with wall tamper and reed switch

Motion Detectors	
EN1260	Wall mount motion detector
EN1261HT	High Traffic Motion Detector
EN1262	Motion detector with pet immunity
EN1265	360° Ceiling mount motion detector

Specialty Transmitters	
EN1242	Smoke detector transmitter
EN1247	Glassbreak detector transmitter
EN1249	Bill Trap

Site Survey Kit	
EN7016	Wireless survey kit

Receivers	
ISW-D8125CW-W	Commercial Wirele Interface Mod
ENKIT-01	ISW-D825CW-V2 and EN4200 kit
EN4200	Serial Receiver
EN4204R	Four zone add-on receiver with relay outputs
EN4216R	16 zone add-on receiver with relay outputs

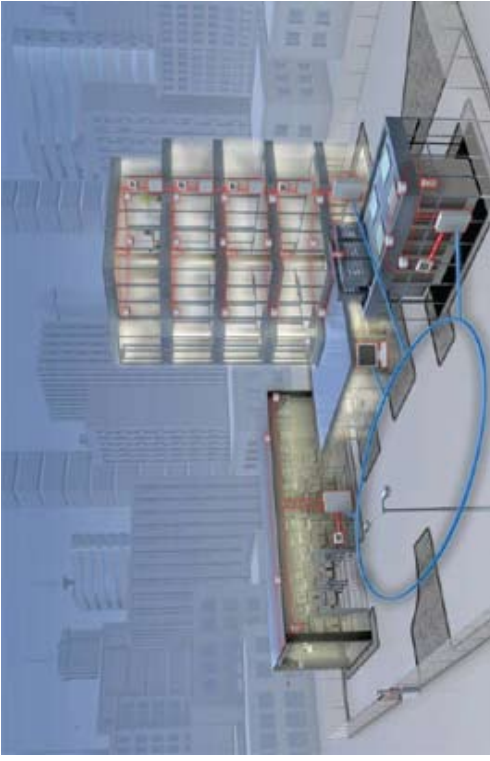


Receivers
Seamlessly integrate Commercial Wireless platform transmitters into a wireless network with G Series Control Panels. They provide individual point annunciation with trouble conditions for each transmitter. Receivers are also available with relays for connection to other control panels.



Repeaters
The line-powered 900 MHz EN5040-T Highpower Repeater receives, decodes, and re-transmits signals from Commercial Wireless platform transmitters. The repeater acts as a range expander for any transmission, allowing the installation to scale from smaller commercial sites to large campuses with several buildings. They include an on-board, state-of-the-art lithium ion back-up battery.

Repeaters	
EN5040-T	High power repeater with transformer
EN5000 and EN5000-T	Repeater with or without transformer



FPA-1000-UL Fire Alarm Control Panel Quick Guide



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Top Benefits of the FPA-1000-UL

- Unbeatable value, offering best price/feature ratio in its class
- Reduced installation time and costs with minimal plug-in modules
- Convenient internet access with built-in, self-contained web server and dedicated web pages
- Built-in Digital Alarm Communicator Transmitter (DACT) and Conetix IP Alarm Over IP reporting as standard – no need to purchase extra modules or parts to get IP communication
- Consistency in service parts and inventory by using Bosch's own option bus feature built-in, which uses the same accessories as the FPD-7024
- Meets the need for carbon monoxide and other toxic gas detection in one panel with UL listed gas detection
- Simple installation and programming, thanks to simple design and engineering
- Easy operation and understanding during emergency events with smart design keypad featuring larger buttons and symbols



Features

- Up to two analog addressable Signaling Line Circuits (SLC) configurable as: Four Class B Style 4 or Two Class A Style 6 or 7
- Up to 127 detectors and modules per SLC Loop for a total of 254 addresses
- Uses standard wire – no shielded or twisted pair required on SLCs
- Programmable sensitivity levels per device and automatic day and night sensitivity modes
- Automatic calibration and drift compensation routine
- 120/240 VAC power; total 5.5 A transformer output
- Two integrated Notification Appliance Circuits (NAC) rated at 2.5 A each, allowing up to 4 Amps of current (shared among auxiliary power, option bus and NAC)
- Up to four addressable Remote NAC Boosters, providing auxiliary power and up to 16 synchronized remote NAC circuits
- Mainboard NAC patterns include Steady, Pulsing, Temporal Code 3 and Temporal Code 4
- Built-in synchronization protocol for notification devices: Wheelock™ and System Sensor®
- Three programmable Form C relays on the mainboard (fire, trouble, supervisory, gas alarm and activation by zone)
- Option bus for optional boards and expansions including LCD/LED annunciators, Octal Driver Module, Octal Relay Module and Remote NAC Booster
- Optional FPE-1000-CITY City Tie Plug-in Module with two circuits, each programmable to Local Energy or Reverse Polarity
- Built-in Ethernet interface for Conetix IP reporting and/or programming and diagnostics
- Built-in dual phone line: public switched telephone network (PSTN) and IP DACT communicator
- Contact ID, SIA 300 and Modem IIIa2 reporting formats
- Positive Alarm Sequence
- Pre-Signal

Listings and Approvals

- UL Listed 864 9th edition
- FM (pending)
- CSFM
- MEA (pending)
- FCC parts 15, digital devices and part 68 phone connections

Ease of use and functionality

- Large 4-line by 20-character LCD display
- Six LED status indicators on each panel keypad or remote LCD annunciator, including gas alarm LED
- Menu-driven user interface on panel
- Easy programming from panel keypad
- Browser-based user interface for programming and diagnostics on a networked PC with Microsoft® Windows® XP and Microsoft® Windows® Vista or Unix/Linux based operating system – no software installation required
- 4 Programmable authority levels secured with a user-definable, four-digit PIN
- 128 software zones for flexible input-output mapping
- Auto Learn feature for easy start-up programming
- Local piezo sounder
- Fire drill test function
- Walk test function
- Alarm verification feature
- Bypass or unbypass points, outputs or zones individually
- 1000 events history buffer
- Event and history printing via network printer
- Three languages built-in (English, Spanish and Portuguese), software configurable, LED and keypad labeling easily exchangeable

FPA-1000-UL Fire Alarm Control Panel Quick Guide – Accessories



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Option Bus Accessories



FMR-1000-RCMD Remote Command Center
Remote operational terminal of the FPA-1000-UL panel, providing buttons for silence, reset, acknowledge and drill. Features scrolling keys, key switch with 1358 key and built-in piezo sounder.



FMR-1000-RA Remote Annunciator
Remote LCD annunciator featuring acknowledge key. Includes scrolling keys and built-in piezo sounder.



D7032 Eight-Zone LED Annunciator Expander
Attaches to a D7030X, D7030X-S2 or D7030X-S8. Identifies the location of a fire alarm for eight additional zones, showing 16 LED zones in the D7030X/D7032 combination.



D7048/B Octal Driver Modules
The outputs are fully programmable and can be activated by system events. These outputs have the same programming options as the local relays. Each output operates independently of the other seven to provide complete flexibility.



D7035/B Octal Relay Module
The FPA-1000-UL supports up to two Octal Relay Modules. The outputs are fully programmable and can be activated by system events. These outputs have the same programming options as the local relays. Each output operates independently of the other seven to provide complete flexibility.



D7030X LED Annunciator
Identifies the location of a fire alarm for up to eight zones allowed per system.

D7030X-S2 LED Annunciator

Features two zones reserved for supervisory functions. Incorporates power and trouble LEDs plus eight-zone LEDs that can be individually labeled.

D7030X-S8 LED Annunciator

Features eight zones reserved for supervisory functions. Incorporates power and trouble LEDs plus eight-zone LEDs that can be individually labeled.

Control Panel Accessories



FPP-RNAC-8A-4C Remote Notification Appliance Circuit Power Supply
The FPP-RNAC-8A-4C Remote NAC Booster adds four additional Notification Appliance Circuits: NFPA 72, Class B (Style Y) or Class A (Style Z) to the fire panel or serves as a power supply for fire protective signaling systems.



D126 (12v 7ah), D1218 (12v 18ah), D1224 (12v 24ah), D1238 (12 38ah) Secondary Battery
2 x 12 V, 18 Ah maximum within enclosure or 40 Ah maximum external.



BATB-40 / BATB-80 Battery Box
Provides a single level (two-battery capacity) of battery storage with an optional shelf that increases the battery capacity to four batteries. BATB-80 includes a mounted shelf that holds up to four batteries.



FPM-1000-SFMK Semi-flush Mounting Kit
Includes trim ring and mounting accessories.



FPE-1000-SLC Signaling Line Circuit Module
Provides a Signaling Line Circuit for connection of analog DCP devices to the FPA-1000-UL Compact Fire Panel. A second Signaling Line Circuit can easily be added by plugging in the FPE-1000-SLC to the mainboard. Nominal 39 VDC (30 to 40 VDC), 200 mA maximum (per SLC), power-limited, supervised.



FPE-1000-CITY City Tie Plug-in Module
Provides two circuits that can be programmed as Local Energy or Reverse Polarity module.

Initiating Devices



FAA-325-B6 Analog Detector Base
Compatible with all analog addressable detectors that use the advanced analog communication protocol, except the ALG-DH. 6 in (15 cm) diameter.

FAA-325-B4 Analog Detector Base

Compatible with all analog addressable detectors that use the advanced analog communication protocol, except the ALG-DH. 4 in (10 cm) diameter.



FAP-325 Analog Photoelectric Smoke Detector

Detects optically dense smoke typical of fires involving materials such as soft furnishings, plastic and foam, which tend to smolder and produce large, visible smoke particles.



FAH-325 Analog Heat Detector

Detects heat in environments where smoke detectors are unsuitable because of the presence of system or cooking fumes, such as a kitchen.



FAI-325 Analog Ionization Smoke Detector

For use in areas where early warning of superheated or flaming combustibles is expected. Also designed for use where outside Radio Frequency Interference (RFI) and other electrical interference are expected.



FAA-325-B6S Analog Sounder Base

Contains an addressable sounder that provides an audible alarm in the immediate vicinity. Compatible with all analog addressable detectors that use the advanced analog communication protocol, except the ALG-DH. Auxiliary powered. The Analog Sounder base's address is programmed automatically. (For this device, the address of the mounted detector plus 127 come up to the sounder base address.)



FFAD-325 Series Analog Duct Smoke Detector

Provides early detection of smoke and products of combustion present in air moving through HVAC ducts in commercial, industrial and residential applications.

Three types available:

- FAD-325-DH Analog Duct Smoke Detector Replacement Head
- FAD-325 Analog Duct Smoke Detector (with Housing)
- FAD-325-R Analog Duct Smoke Detector with two Relays (with Housing)

Accessories

- FAA-325-2.5 Testing Tube, 2.5 ft length
- FAA-325-5 Testing Tube, 5 ft length
- FAA-325-10 Testing Tube, 10 ft length



FMM-325A/FMM-325A-D Analog Manual Pull Station

Fast response contact monitor module mounted in a corrosion-resistant, rugged, die-cast housing for single-gang mounting. Loop powered.

Input/Output Modules



FLM-325-CZM4 Conventional Zone Module
Monitors dry contacts (NO) devices such as two-wire conventional detectors and pull stations. Transmits the status of one zone of devices back to the panel (25 maximum per zone; number depends on type of connected devices). Class A or Class B wiring is configured with a jumper on the module. Auxiliary powered. The number of Conventional Zone Modules (CZM) per SLC module is limited to 64.



FLM-325-214 Dual Input Monitor Module
Provides two independent contact monitoring circuits while utilizing only one address on the SLC. Can be programmed to monitor normally open or normally closed contact fire alarm and supervisory devices (NO EOL, NC EOL, NC no EOL). Supervises with Style B (Class B). Loop powered.



FLM-325-2R4 Dual Relay Module
Allows independent control of two Form Contacts (rated for 1.0 A at 30 VDC or 0.5 A at 125 VDC) for a variety of normally open (NO) and normally closed (NC) contact applications such as fan operation, elevator recall, door closure and auxiliary notification. Loop powered.



FLM-325-IS0 Short Circuit Isolator
Isolates a shorted section on a specific polling circuit from the rest of the system to minimize the loss of devices.



FLM-325-N4 Supervised Output Modules
Provide a supervised pole reversal output used for acoustic and optical signaling devices or to trigger a Remote NAC Booster. Require a 24 VDC auxiliary input voltage. The output relay is rated to supply 2 A at 30 VDC. Provide Steady, Pulsing and Temporal Code 3 output pattern.



FLM-325-I Series Fast Response Contact Monitor Modules

Designed for use with pull stations, water flow switches and other applications requiring the monitoring of dry contact alarm initiating devices. Can be programmed in NO EOL, NC EOL, NC no EOL.

Three types available:

- FLM-325-I4 with 4-in Back Box
- FLM-325-IS with Terminal Screws (future release)
- FLM-325-IW with Pigtail (future release)



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